Patron: His Majesty the King

UNDER THE AUSPICES OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

VIIᵀᴴ INTERNATIONAL CONGRESS OF ARCHITECTS

LONDON, 16—21 JULY 1906

Hon. President: H.R.H. THE PRINCE OF WALES, K.G.
President: Mr. JOHN BELCHER, A.R.A., President R.I.B.A.

SUMMARY OF PROCEEDINGS

Headquarters of Congress: THE GRAFTON GALLERIES, Grafton Street, London, W.

Secretary:
W. J. LOCKE,
Secretary R.I.B.A.

Third Series, Vol IXI I No. 18.—25 August 1906.

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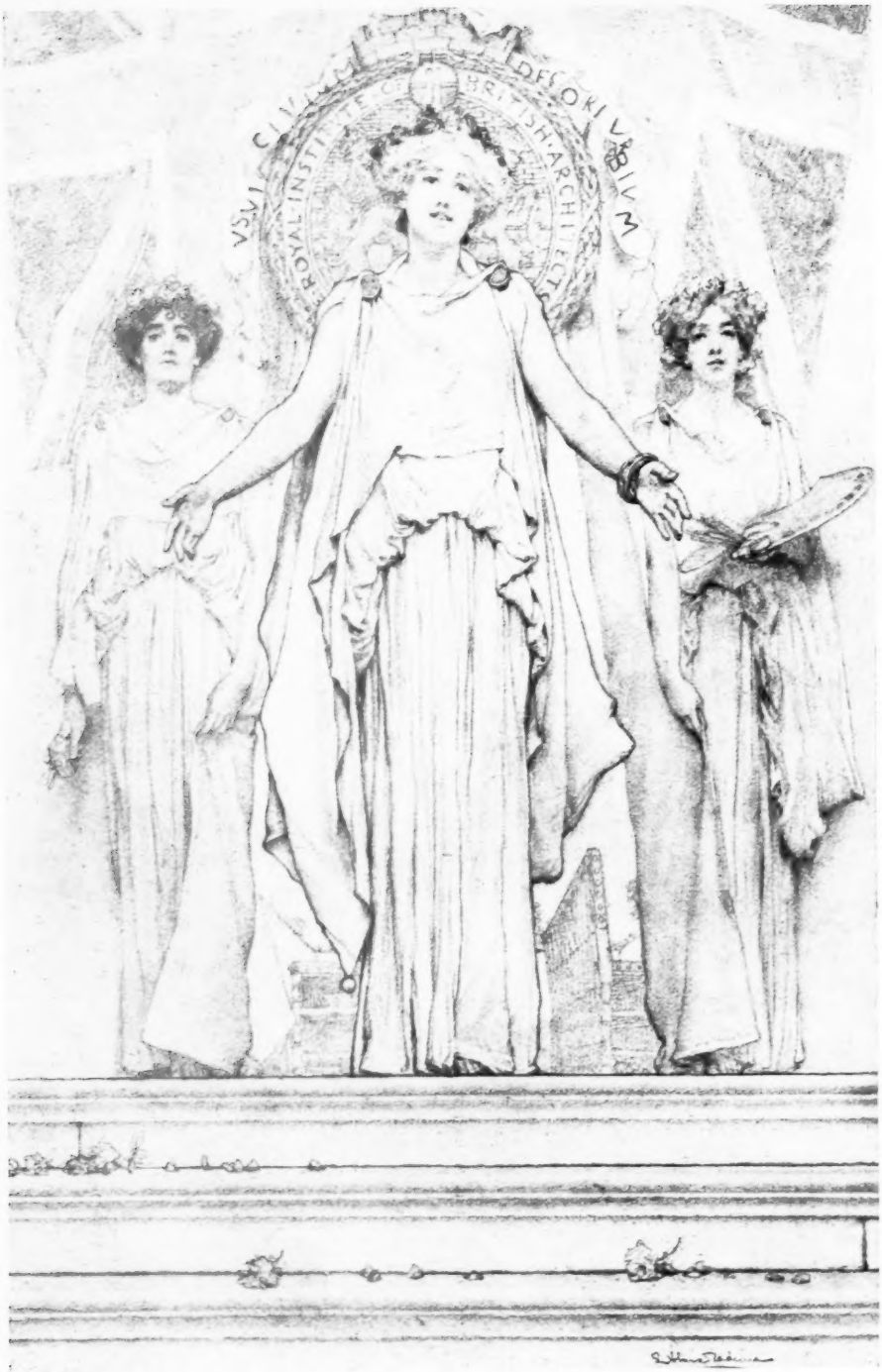


FRONT OF MENU CARD FOR THE CONGRESS BANQUET, DESIGNED BY SIR LAWRENCE ALMA-TADEMA, O.M., R.A.

THE CONGRESS: SOME NOTES AND IMPRESSIONS.

By Mervyn Macartney [*F.*].

THE Papers and proceedings of the Congress will be published *in extenso* in the *Compte Rendu* to appear later; meanwhile it has been thought advisable to set before members of the Institute in their own Journal a *précis* of the Papers and doings of the VIIth International Congress of Architects. There is no doubt that the Congress was a great success. The number attending was a record, and the organisation was excellent. This was largely due to the untiring zeal and energy of the Secretary of the R.I.B.A. and his collaborators. All worked in harmony with the one object of making the Congress a great success. To arrange and cater for so large a body as 1,700 people was no sinecure. The multifarious duties that fell to this devoted body deserve more than a passing word of thanks, but this is not the place to enlarge on this side of the matter before us.

To the President the Congress owes a great debt of gratitude. His unfailing urbanity and tact under all conditions smoothed away many difficulties. His office was a trying one even to a man in robust health; it must have been doubly so to Mr. Belcher after his late serious illness. All members of the Institute must hope that the strain put upon him has had no injurious effect.

A plain statement of what was done would prove uninteresting. So I have adopted the rather unusual course of stating my own impressions, which, though partial, will at least be personal and unofficial. The Papers numbered seventy. Naturally all were not of equal value, neither would they all appeal to the whole architectural world. Roughly, they may be divided into two sections, controversial and professional.

In the first we have the conservation of national monuments, the extent to which an architect should receive the theoretical and practical training of the craftsman, the architect's control over artist and craftsman, the place of architecture in general education, and lastly the statutory qualification for architects, a subject which may be discussed under both of our main headings.

Professor Baldwin Brown, who read the first Paper on the Conservation of National Monuments, clearly contrasted the difference between British arrangements and those adopted in Continental countries. The Ancient Monuments Protection Amendment Act of 1900, he said, showed an advance; but on the whole, while abroad this subject had been taken up by the Government, in Great Britain it had been left to private enterprise. Again, though Great Britain had a Monument Act, it conferred no compulsory powers over monuments in private or corporate ownership. In inventorisation, too, we were behind our neighbours, and Professor Brown welcomed the idea that the Congress should strengthen the hands of those who urge the necessity of this, and pleaded for the appointment of a Royal Commission as the most practical measure possible.

The Training of Architects in Craftsmanship naturally attracted great attention. Mr. Reginald Blomfield read an interesting Paper in which he surveyed the whole field from an historical standpoint; and after M. van Gobbelschroy, on behalf of the Central Society of Architecture of Belgium,

had warmly urged the necessity of such training, M. Gaston Trélat made a valuable contribution to the discussion, based no doubt upon his personal experience in the school which bears his name. M. Trélat's conclusion was that the education of an architect was sufficiently perfected by the routine of a life bound up with the applications of the art. As to a theoretical and practical education at the beginning of the career, he held that the advantage would not compensate for the time so spent.

On the subject of the Architect's Control over Artists and Craftsmen, Sir W. B. Richmond urged that a committee of six architects, six sculptors, and six painters should be appointed by the R.I.B.A. in order to get away from specialism and its narrowing effects, and he looked forward to such a committee becoming an advisory body to the Government and L.C.C. both in common sense and good taste in all matters artistic. M. Nénot, of the French Institute, recalled some personal experiences at the time of the construction of the Sorbonne, and maintained that an architect should be given great freedom in his choice of collaborators, and that he must himself direct the artists to follow their work without any other preoccupation than the general harmony of the whole, and that within the limits of securing such general harmony he must leave the painters and sculptors complete liberty of form and of colour.

The Education of the Public in Architecture drew an interesting Paper from Mr. Belcher, A.R.A., President of the Congress and of the R.I.B.A., in which he minutely examined all the principles of architecture mainly from a technical point of view. Mr. T. G. Jackson, R.A., perhaps hit the nail on the head when he said that, after all, the best means of education was by the production of good buildings (with which Herr Otto Wagner, of Austria, agreed); but many others favoured more concrete and immediate steps being taken, and Señores Carmona, March, and Saconella were for direct education in schools by way of the compulsory teaching of elementary architecture, the endowment of free chairs, excursions to the most renowned buildings of all countries, and even by the gratuitous display on municipal cinematographs of collections of buildings.

Lastly, with regard to the Statutory Qualification of an Architect, there was considerable difference of opinion; but M. Louis Bonnier, of Paris, struck the right track, in my opinion, when he declared that in architecture, more than in any other art, teaching was a necessity. Two forms of teaching were in fact necessary—methodical teaching and technical teaching—and the two could not be separated without giving imperfect results. Such teaching, he concluded, must, to be efficient, be accompanied by a sanction pointing out the person who could be safely entrusted with the fortunes of private people and the budget of the State, the health of the individual and the hygiene of the nation. That sanction is the diploma.

Herr Otto Wagner was also, I think, right, when he pointed out that artistic control could easily be exercised by the various Boards of Works, and that the legal process must consist therefore in the architect by his signature accepting responsibility for his plans and covering himself by the contractors of the various parts of the work, who in turn produced the calculations made and revised by them.

In the second main division we have the professional subjects, such as the execution of important Government and municipal work by salaried officials, steel and reinforced concrete, the conduct of international competitions, the ownership of architects' drawings, and the planning and laying-out of streets and open spaces. On the first of these subjects an excellent Paper came from Herr Otto Wagner, who pointed out that the architect appointed to an office could not play the leading part, but must subordinate his ideas to his official superiors; that no artist cramped in an office could reach his highest development; and that therefore a State or municipal administration would never obtain as salaried officials first-class architects, and that therefore they could not fulfil by this system their sacred duty of cultivating the fine arts.

The discussion upon steel and reinforced concrete was responsible for a great number of valuable Papers being read, Mr. E. P. Goodrich's account of his own system of ferro-concrete being

interesting, but appearing to rouse a good deal of criticism. Throughout, the leading part was, not unnaturally, played by our American *confrères*, and an interesting announcement was made by Mr. George B. Post, who said that before the next Congress he hoped the American Commission appointed to make extensive experiments of all building materials would be able to furnish full information.

Little or no substantial progress was made as to the conduct of international competitions. A carefully codified Paper by M. Guadet introduced the subject, but for the most part the discussion wandered off into minor details, and finally it was decided to refer the whole question to the Permanent Congress Committee.

The discussion upon the ownership of architects' drawings showed a distinct tendency to become limited only to the British aspect of the matter. From this, however, it was rescued by Dr. H. Muthesius (Germany), who showed that the legal question was by no means so definite in Germany as many of the audience seemed to imagine; and finally a much amended resolution was carried recording the opinion of the Congress that the architect is employed for the production of a building, and that all drawings and papers prepared by him to that end belong to him.

On the planning and laying-out of streets and open spaces excellent Papers were read, and everyone regretted that time would not allow of a discussion being held. A very thoughtful Paper came from Eugène Hénard, who minutely compared the principles on which Berlin, London, Paris, and Moscow had been laid out, and who, as regards parks and open spaces, summed up in favour of the superiority of London. Another good Paper came from Dr. J. Stübben (Berlin), who argued that on purely æsthetic grounds there was as much to be said for straight as crooked streets, and advocated the aiming at self-contained street pictures. Not the least interesting or valuable item was the exhibition by Mr. Frank Miles Day, of Philadelphia, of a series of pictures illustrating the ideas advanced in the Papers, including views of what had been accomplished at Cleveland, Buffalo, St. Paul, and Washington.

The discussions that ensued give a fairly good index of the importance attached to the subject by the members attending the Congress. The attendances on no occasion except the last were crowded. In fact it was evident that a large portion of the members came for enjoyment rather than for serious purposes. With the exception of *The Times* and *Morning Post* the public Press and public generally took little notice of the proceedings. Architecture is not understanded of the people, and our controversies interest them but little. Till the awakening comes we must be content to be unrecorded and despised. The one subject that seemed to be worth recording was that of the statutory qualification of architects—that appeared to touch them nearly. It would not do to enlarge on this subject here, but it seems a matter for regret that the discussion somehow ended as it did.

To turn to other matters the excursions were in all respects a success, except that provision had not been made for the numbers that would have wished to avail themselves of the opportunity of seeing the various historical buildings prepared for these visits. As most of these visits were in duplicate it is impossible for me to speak of more than half. The half that I attended were undoubtedly a success, though the excessive heat was most trying. It must be a source of satisfaction to the British member to find that unstinted praise was bestowed on the buildings selected for inspection. The praise that was given on the part of our *confrères* must do good as coming from unprejudiced sources. It was my good fortune to be in the company of some of our transatlantic cousins, and the surprise and the enjoyment of our architectural brethren were most comforting to the British breast.

There is as much individuality about some of our English homes and castles and their environment as in the palaces of Venice and her lagoons. You cannot, and never will, find their like elsewhere. There is a distinction as well as a distinctiveness about Hatfield, Bramshill, Haddon, Hampton Court, and Knole which is inimitable. This has been recognised by ourselves

for many years. It was a revelation to many of our distinguished guests. The visits to Oxford and Cambridge, Hatfield and Hampton Court, gave them ocular demonstration of this. But the Chronological Exhibition also showed them, not only the choicest examples of our domestic architecture, but the vast stores of ecclesiastical buildings spread throughout the length and breadth of the land. It seems to me that the R.A. could with advantage have an Exhibition of Architectural Work, leaving out modern work. The Congress Exhibition, interesting as it was, was not so attractive as it might have been, owing to the extremely limited time available for hanging, and to the fact that there was a want of harmony in the arrangement. All these faults could largely be obviated by more time and some expenditure of money. It is slowly being borne in on the public intelligence that easel-pictures do not represent the whole phase of art. The oldest and most useful of the arts has a claim to be considered by the leading society of artists.

Of the purely social and convivial meetings of the Congress it is hardly necessary to say much beyond the fact that they were all immensely popular. It must have struck our guests as singular that no Government notice was taken of our proceedings. To us who are used to this snubbing it did not seem extraordinary, but to our friends it appeared as a slight which they could not understand.

One definite result appeared to me to come from the discussions, and that was that, in the opinion of those best qualified to judge, namely, the American architects, reinforced concrete and steel construction was still in the experimental stage, and that no reliable data had as yet been acquired. It behoves all those who are about to employ this method of building to proceed with extreme caution. When we have learnt how to build with safety with this novel construction, we can then apply our minds to its artistic treatment.

THE SEVENTH INTERNATIONAL CONGRESS OF ARCHITECTS, LONDON 1906.

SUMMARY OF PROCEEDINGS.

General Arrangements.

The task of organising the Seventh International Congress of Architects was undertaken by the Institute at the request of the Permanent Committee of the Congress assembled at Madrid in 1904. Committees, General and Executive, were forthwith appointed, and preparations for the London meeting at once commenced. The Executive Committee consisted of Mr. John Belcher, A.R.A., *President*; Sir Aston Webb, R.A., Past President R.I.B.A.; Messrs. Alexander Graham, Hon. Sec. R.I.B.A., T. E. Collcutt [*F.*, now *President*], H. T. Hare, Vice-President R.I.B.A., John Slater [*F.*], Leonard Stokes, Vice-President R.I.B.A., John W. Simpson [*F.*], Thos. W. Cutler [*F.*], H. H. Statham [*F.*], Reginald Blomfield, A.R.A. [*F.*], Mervyn Macartney [*F.*], E. Guy Dawber [*F.*], R. S. Balfour [*F.*] (President A. A.), W. J. Locke, Sec. R.I.B.A., *Secretary*.

As a first step the King was approached, and his Majesty graciously accorded his patronage to the Congress. H.R.H. the Prince of Wales signified his kindly interest in the Congress, and consented to fill the office of Vice-President. H.R.H. the Duke of Connaught, his Grace the Duke of Argyll, and several other distinguished personages kindly accepted the invitation of the Council to serve as Vice-Presidents. On the General Committee were several eminent London architects, painters, sculptors, and engineers, and the Presidents of the Allied Societies in Great Britain and Ireland. The Committee of Patronage included Ministers attached to various British Colonial and foreign Governments, professors in the great Continental academies and colleges of fine arts, distinguished *savants* of all countries, and leading members of the architectural profession in the chief cities of the world. Delegates were sent by the foreign Governments of Europe and the United States and by the principal learned and professional bodies throughout the world.

"The work of organisation," to quote the statement of the Secretary read at the Inaugural Meeting at the Guildhall, "began by the Executive Committee asking the premier architectural societies of the world to issue circulars of propaganda to the architects practising in their respective countries. By their generous and loyal help* over twenty-five thousand circulars were distributed, the invitation to join the Congress was printed in every architectural journal, with the result that practically every practising architect the world over had had the Seventh International Congress brought to his notice.

"The Executive Committee have departed from tradition in according to ladies practically full privileges of the Congress at a special subscription.

"The Committee are proud to record the fact that the number of members has reached the figure, unprecedented in these Congresses, of nearly 1,700. Of these 700 are from foreign European countries, America, and the British colonies.

"The Executive Committee have to mention to their colleagues from other countries the fact that the British Government stands aloof from participation in the organisation of Congresses of this kind. It neither subventions them nor invites foreign Governments to appoint official delegates. The guarantor of the Congress is the Royal Institute of British Architects, and foreign Governments have been approached semi-officially through the independent action of the Executive Committee acting under the authority of the Royal Institute."

The Council of the Institute granted the sum of 500*l.* towards the expenses of the Congress; and in addition gave a Garden Party to members at the Royal Botanic Society's Gardens. The Society of Architects made a donation of 100*l.* to the Congress funds; and the Architectural Association one of 25*l.*

The three classes of members contributed: *Donors*, 4*l.*; *Subscribing Members*, 1*l.*; *Lady Members*, 10*s.*

The privileges of members included the receipt of a Card of Identity; a Congress Badge; all the Literature

FACE OF MEMBER'S CARD OF IDENTITY.
DESIGNED BY MR. JOHN W. SIMPSON.

issued in connection with the Congress; the final *Compte Rendu* of the Congress; an invitation to the Inaugural Meeting at the Guildhall; an Invitation to the Conversazione given by the Lord Mayor of London at the Mansion House; an invitation to the Soirée given by the Royal Academy at Burlington House; an Invitation to the Institute Garden Party. Members were entitled to attend the meetings of the Congress; and to participate in the Various Visits, Entertainments, and the Farewell Banquet on payment of the necessary charges.

* The Papers for abroad were consigned in parcels to the Secretaries of the Colonial and Foreign Societies and of the various Sections of the Permanent Committee, who very kindly undertook their distribution, and to defray the cost thereof, in their respective countries. The various Papers were printed in the four languages, English, French, German, and Italian.

The British railway companies and various Continental companies issued return tickets to London at considerable reductions to members attending the Congress.

The London Exhibitions, Ltd., placed at the disposal of members five hundred invitations to visit the Imperial Royal Austrian Exhibition at Earl's Court.

The Zoological Society threw open their Gardens to members on the Sunday immediately preceding and that following the Congress.

The Royal Botanic Society gave members free admission to their Gardens during the Congress Week.

The Athenæum, the Arts Club, and the National Liberal Club elected foreign delegates to honorary membership during the same period.

Lady members were constituted Hon. Members of the Lyceum Club (for ladies).

A Ladies' Committee, consisting of Lady Webb, Mrs. Belcher, Mrs. Blomfield, Mrs. Dawber, Mrs. Hare, the Hon. Mrs. Macartney, Mrs. Slater, Mrs. Statham, and Mrs. Stokes, arranged for the comfort and entertainment of Lady Members; and a room was set apart for them at the Grafton Galleries.

The members' badge, designed by Mr. John W. Simpson, whose drawing for it is reproduced on accompanying sheet, was in bronze, executed by the Bromsgrove Guild. The member's card of identity, also Mr. Simpson's design, was in green leather, the front being tooled in gold. Printed inside was a formal certificate of the owner's identity as a member of the Congress, with the signatures of the President and Secretary in facsimile.

A first instalment of literature issued to members consisted of a handbook of 132 pages, in English and French, giving brief descriptions, and in some cases plans, of the various buildings on the programme of visits; information as to other places of interest in London; a list of hotels and tariffs; cab fares, &c. The title-page, which is reproduced above, was kindly designed by Mr. E. A. Rickards.

The subjects selected for discussion at the Congress had been carefully chosen by the Executive Committee as subjects of universal importance to architects, without regard to conditions peculiar to any one nation. Seventy reports on these subjects, contributed by representatives of every country in Europe and America, were accepted by the Committee. To encourage and facilitate discussion at the meetings, authors were required to furnish abstracts of their papers some time in advance in order that they might be printed and circulated among the general body of members. These abstracts, with the shorter communications given entire, were translated, printed in English and French, and issued in book form to all home members prior to the opening of the Congress.*

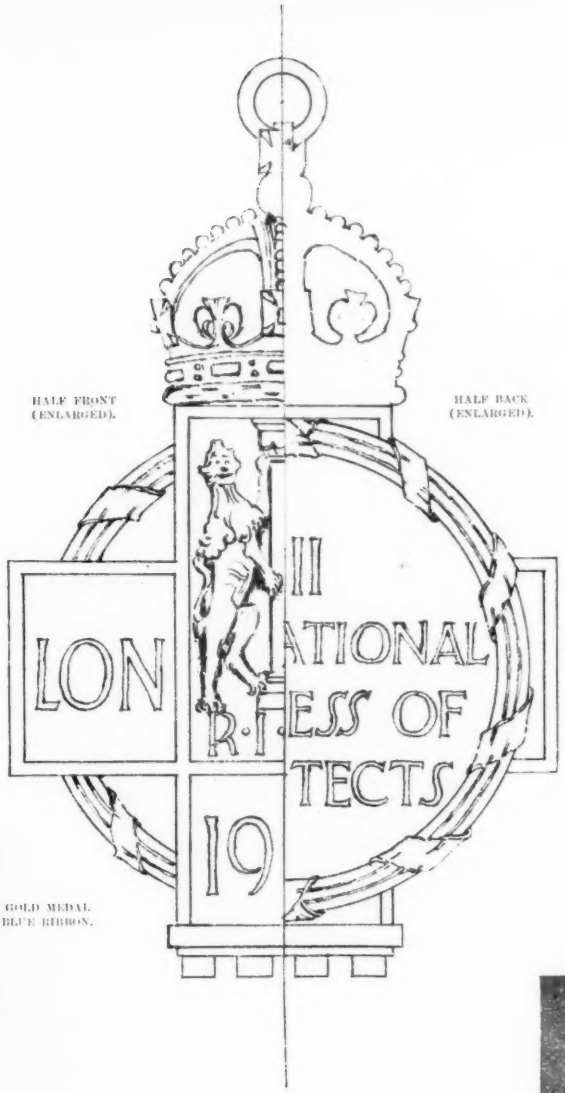
The Committee had been fortunate in securing the Grafton Galleries as the headquarters of the Congress, especially in view of the Exhibition which proved so attractive a feature of the Congress. Centrally situated, with spacious and well-lighted halls and galleries, with ample accommodation for the somewhat extensive needs of the administration department, and for the telegraph, post-office, and other services, no more desirable quarters for the Congress could possibly have been found.

The Exhibition Sub-Committee was composed of Messrs. John Belcher, A.R.A., Leonard Stokes, H. Heathcote Statham, Thos. W. Cutler, Mervyn Macartney, J. Alfred Gotch, C. Harrison Townsend, Francis Bond, Walter Millard, Edward S. Prior, W. A. Forsyth, W. Wonnacott, E. Guy Dawber, J. Starkie Gardner, W. J. Locke, Ralph Straus (*Secretary*).

The exhibits included water-colours, measured drawings, plans, photographs, &c., of British architecture, with specimens of British furniture and silver-work. The exhibits, exclusive of the silver-work, numbered 1,089. The Catalogue, produced under the editorship of Mr. Straus, forms an interesting and valuable addition to the Congress literature. The following passages quoted from Mr. Straus's preface will give an idea of the aim and scope of the exhibition:—

"The Exhibition is divided into eight sections, of which six deal with purely architectural subjects, one with British furniture, which is generally allowed to be closely connected with architecture, and one with British silver-work. Of the first six sections four go to make up what may be termed a fair representation, arranged chronologically, of British architecture. These are entirely confined to the long galleries. Having decided that the exhibition most interesting to architects would take the form of a collection of plans and measured drawings, supplemented by photographs, the Committee have en-

* The communications above referred to, in English, with others subsequently to hand, are printed in the present issue, pp. xxi–lxxii, the names of those taking part in the discussions and the conclusions arrived at by the Congress being given at the end of each subject.



HALF FRONT
(ENLARGED).

HALF BACK
(ENLARGED).

GOLD MEDAL
BLUE RIBBON.

WHITE ENAMEL
CENTRE GROUND.

COMMITTEE BADGE—FRONT
(ACTUAL SIZE).

ORDINARY MEMBER'S BADGE—BACK
(ACTUAL SIZE).

THE INTERNATIONAL CONGRESS BADGE, 1906, DESIGNED BY MR. JOHN W. SIMPSON.

REPRODUCED FROM MR. SIMPSON'S DRAWINGS.

deavoured to illustrate in this way such buildings as appeared most representative of their particular type. The period so covered begins at the Norman Conquest and ends in 1860, the year in which Sir Charles Barry, R.A., died. It will be noted that, where possible, original drawings have been secured, although it was found necessary to include certain reproductions to complete the scheme of the exhibition.

"The large galleries contain a small collection of water-colour paintings dealing with British architectural subjects.

"In the lower gallery a series of photographs forms a more or less representative exhibition of the work of living British architects.

". . . In assigning a certain portion of the exhibition to furniture the Committee have been actuated by a desire to show some few specimens of British work more or less illustrative of their own particular school or period. The pieces shown all come out of private collections now in London. The same may be said of the silverwork, exhibited with the furniture, in the lower gallery. There are very few pieces of silver, but each is of great individual interest, and some are now exhibited for the first time."

The Programme of the Congress, a work extending to sixty-four large octavo pages, gave full details of all the arrangements, particulars of the various meetings, functions, entertainments, and visits, together with lists of committees and delegates, and the names and addresses of the entire body of congressists.

Opening Day and Inaugural Ceremony.

The Congress opened at 10 o'clock on Monday morning, the 16th inst. The President, wearing the Institute Presidential insignia of office, and supported by most of the members of the Executive Committee, awaited members in the great central hall in readiness for the first item on the Programme, the President's Informal Reception. A Master of the Ceremonies was in attendance to announce the names of members as they advanced to be presented to and welcomed by the President.

To minimise the confusion that would probably attend the sudden ingress of some hundreds of members, mostly foreigners unacquainted with the English tongue, every member on entering was handed a paper giving directions in English, French, German, and Italian as to the exact course to follow in order to have his requirements in the way of badge, cards for entertainments and visits, railway tickets, &c., at once attended to. By this means endless questions were anticipated and answered without need for reference to anyone. Placards conspicuously placed on the walls indicated the counters where members could be attended to in their own language, and interpreters, distinguishable by the coloured ribbons they wore, were posted about the rooms on the watch to render service where required. The machinery for dealing with this preliminary and, for the Executive, most anxious part of the business worked so smoothly that in less than three hours after the opening of the doors the wants of the thousand or so members who had put in an appearance had been met. After being presented, the visitors passed through the Galleries and inspected the various exhibits.

At 11.30 the Permanent International Committee, presided over by the President and M. Daumet (France), with M. Poupinel (France) and Mr. W. J. Locke as Secretaries, met in the Institute Rooms for the appointment of Chairmen and Hon. Secretaries for the various sittings of the Congress. An English and a foreign Chairman, and an English and a foreign Secretary were appointed for each of the Sectional Meetings where the questions of the Programme were to be discussed. The names of the Chairmen and Secretaries will be found printed under the titles of the various subjects in a subsequent part of this report.

The formal inauguration of the Congress took place at the Guildhall, kindly placed at the disposal of the Congress for this purpose by the Lord Mayor and the Corporation of the City of London. H.R.H. the Princess Louise had graciously consented to honour the meeting with her presence ; and the proceedings were to be presided over by the Duke of Argyll, one of the Vice-Presidents of the Congress.

The meeting took place at three o'clock, and was very largely attended, the great historic hall being filled to overflowing. Her Royal Highness and the Duke were awaited at the door of the side gallery by the President and members of the Executive Committee and by the Lord Mayor and Lady Mayoress and the Sheriffs of the City. On their arrival Mrs. Belcher, on behalf of the Ladies' Committee, presented the Princess with a beautiful bouquet of flowers. The whole party then proceeded up the staircase and through the picture gallery on to the daïs of the Great Hall. Among those afterwards assembled on the daïs were the United States Ambassador, the Greek Minister, and the various delegates from foreign countries who were subsequently to address the Meeting ; Sir L. Alma-Tadema, R.A., Sir W. B. Richmond, R.A., Sir Aston Webb, R.A., Sir Wm. Emerson, Sir John Taylor, Professor Aitchison, R.A., Mr. Alfred East, R.A., Mr. Reginald Blomfield, A.R.A., the Hon. Nona Kerr and Captain Geoffrey Robert, in attendance on the Princess ; the Members of the Executive Committee, the Secretary, and several members of the Institute Council.

The Lord Mayor, having addressed from the Chair a few words of welcome to the Princess Louise and the Duke of Argyll, surrendered the Chair to the Duke, who then called upon Mr. Belcher, the President, to deliver his Address of Welcome.

The President's Address.

Your Royal Highness, my Lord Duke, your Excellency, my Lords, Ladies, and Colleagues,—As President of the Royal Institute of British Architects I have the honour of being invited to preside over the work of this the Seventh International Congress of Architects ; and on behalf of the Executive Committee I take the earliest opportunity to heartily welcome the distinguished Delegates and Architects who have honoured this country by their presence, and to assure them of our high regard and esteem.

I feel sure that the members of the Congress will be gratified to know that His Majesty King Edward VII. has been graciously pleased to be the Patron of the Congress, that the Prince of Wales has consented to be its Honorary President, and that the Royal Family have in other ways shown an interest in our proceedings which has been, and will continue to be, a great incentive and encouragement to us.

The Royal Princess whose kindly and gracious presence we welcome amongst us to-day is not only herself a distinguished sculptor, but has shown also a keen and discriminating appreciation of Art in all its forms. The artistic tastes and interests of the Princess Louise are as well known to our confrères from other lands as they are to us.

Gentlemen, I have every hope that our deliberations will prove of great interest and value, and will tend to

the advancement of our beloved art throughout the world. It is by interchange of ideas, comparison of methods, and the statement of experiences under new and changing conditions that that advancement will be assured. These Congresses, therefore, may be expected to bring in their train fresh life and vigour, increased enthusiasm, broader views, and new ideas which cannot fail to benefit the community at large.

I say "community" advisedly, because the fact is beginning to be recognised that Architecture as a fine art is not, or must not any longer be, one of the luxuries of the rich, but is of vital importance to the physical and moral well-being of all sorts and conditions of men, especially in cities and large towns. Environment is a tremendous factor in education and development. A man's surroundings have enormous power over him, whether for good or for evil; a power that acts continuously, without cessation—almost, we may say, by day and by night.

This fact is being more and more clearly recognised every day, and efforts, we hope, will be made to introduce a stricter supervision over buildings of every kind, that a better order of things may gradually be created.

But here, at the very outset, we are confronted by a popular misconception concerning the true nature of Architecture.

In past years public interest has been almost limited to the scientific side of the question, viz., that houses and other buildings should be well built, sound, and wholesome; that drainage and ventilation should be carefully attended to, and other so-called "practical" matters.

Occasionally, and more frequently of late, a certain amount of ornament and so-called style has been demanded, and this has been thrown in or daubed on afterwards, and the result dignified with the name of Architecture.

Such work is not true Architecture at all. It is mere building—sound and good perhaps, but still mere building—plus certain ornamental and decorative features. Now, if our architecture is to be an elevating and refining influence; if it is to be an enduring power for good; still more, if it is to be a witness to coming generations of earnest purpose and high aspirations, of moral power and intellectual greatness, the artistic element must not be something merely added; it must interpenetrate and blend with scientific knowledge and experience from the very first.

Architecture is both a science and an art, and the mathematical symbol of the relation between the two is not that for mere addition (+), but for multiplication (×). In other words, Science supplies the facts and the laws which Art takes and presses into the service of noble ideals. The scientific and artistic elements in a good building may perhaps to a certain extent be distinguished, but they cannot be separated; they are as inseparably connected as mind and body.

The primary motive for all building lies in the practical needs of life, in the demand for shelter and comfort; but the architect's work calls for a much wider range of thought and purpose than is necessarily implied in such provision.

If the task entrusted to him is to be honourably as well as adequately fulfilled he must be an artist, with an artist's motives, aspirations, and ideals, as well as a man of practical skill and scientific knowledge.

In this way the elementary necessities of life may be made to serve high and noble ends, and much that is elevating and refining may be brought into the lives of the people as a silent but continuous power for good.

Their homes, the streets they traverse, and the buildings they work in may all be made, as Lord Leighton once observed, to contain "the fire-germ of living beauty," quickening and invigorating the deep springs of health and joy.

The proceedings of this Congress and the publicity attaching to them will help, we trust, to bring this important subject into greater prominence; and we shall, I am sure, find, as we have often before found, the public Press most ready and most powerful in helping on anything that concerns the common weal.

It may perhaps be as well here to inform those of our honoured guests who are not yet aware of the fact that in this country we have no Minister of Fine Art or similar authority to watch over the interests of the public in this respect of the art, as distinguished from the science, of building.

We have a "First Commissioner of Works," it is true; but, however able and enlightened he may be, tradition and custom limit his activity and his authority within certain fairly well-defined lines.

There has been, however, of late, amongst the educated portion of the public, a wonderful awakening to the interest and value of Architecture as a fine art. On all hands we discover a receptive spirit, a disposition to inquire, and a readiness to learn something of the mystery of our art—not merely to admire and study its past achievements, but, treating it as a living art, to ascertain its true functions and vital principles. Everywhere intelligent men are asking how they may distinguish between good and bad; and asking, too, *why* this is good and that bad.

We are taking steps to supply the public with some simple criteria of a general character which may serve as a basis for the formation of a critical taste and sound judgment; and the question of how best to carry this out is a subject that will come before the Congress for consideration and discussion.

If we can thus give the public an insight into some of the living principles of our art—and here I beg to emphasise the word "living"—we shall unlock to them a veritable storehouse of interest and information. For no man has a richer field lying before him for exploration and research than the man who takes an intelligent interest in Architecture, who can appreciate its points, and decipher its meaning. Everywhere, at every turn, he finds a new "subject" to exercise his perceptive and reflective faculties upon. Every truly good work will be to him a fund of information as well as a revelation of character and purpose. He will read the mind of a people in their buildings and understand the social conditions that prevailed in each age. For all true Architecture is instinct with life, the life of its people and of its age.

We may study the thoughts and purposes of past generations, not only in their poetry and their prose, but also in the architectural work that they leave behind them.

No historian's verdict is more reliable than that which is written as with a pen of iron in brick and in stone.

How much have we learnt of the brilliance of Greece and the majesty of Rome from the monuments of their Architecture that have survived!

So also our buildings tell of our daily life and doings, of our noble aims or our sordid interests, of our broad, large-hearted views or of narrow-minded selfishness.

A private residence is an index to the character, tastes, and disposition of its owner. So, too, our public buildings will declare aloud to after generations the ideals and sentiments that govern our municipal and national life.

The educational value and historical interest and importance of Architecture are enhanced by the fact that,

unlike Literature, Architecture is cosmopolitan and universal in its language: its great works, its priceless treasures, are open to be known and read of all.

Every nation, it is true, has its own accents and its peculiar idioms even in Architecture; but this is to be counted for a gain rather than a hindrance by the man who visits other lands. As he travels from one country to another, or even from one city to another, he finds an infinite diversity of expression, throwing an ever-shifting light upon the various aspects and sides of human life and thought and feeling. Many a record of the past, too, is opened to his eyes, speaking of men and manners that have passed away.

The study of Architecture may indeed be made one of the most entrancing of pursuits; but if it is to be delivered from that touch of pedantry, that archæological flavour, that so often clings to it, the student must be brought into contact with living principles. The monuments of the past, as well as the work of to-day, must be read and judged in the light of those principles that hold good for every age and for every nation.

In addressing my brother architects from other lands—and I am proud to see so many distinguished men amongst them—I may venture to point out that our Architecture, like that of other nations, has a distinctive character of its own, being of a severer and graver type than is found elsewhere.

This is partly accounted for by the dull grey atmosphere which so constantly wraps us round, by the comparative rareness of clear and sunny skies, and our generally unfavourable climatic conditions; but I am afraid we must not throw all the responsibility upon Nature.

We are insular in character and disposition—there is no doubt about it—and more so perhaps as individuals than in our corporate life. Every man is his own island—a sort of moated grange, in fact, with the drawbridge habitually raised. We are reserved and apt to shut ourselves up within ourselves. In our railway trains, and even in our clubs, we sit apart in silence, or merely throw remarks at one another over the top of the morning paper. We habitually repress our emotions and hide our feelings.

Naturally, therefore, our buildings also are often stolid, even grim and forbidding in appearance: they lack the charm and brightness which distinguish the Architecture of other and sunnier lands. We hide them away too—in back streets or (if they be in the country) behind high walls and as many trees as we can press into the service.

But let me hasten to add that I have a purpose in speaking of these external characteristics of British Architecture, and that is to beg my illustrious confrères from abroad not to stop at the external features, but to pursue their researches a little further, and they will find set forth in our buildings another characteristic of the people of the land they are honouring with a visit. Under a somewhat grave and sedate appearance it will be found that our people possess warm hearts!

Once within the doors of their houses there will be no lack of a heartiness of welcome and a sincerity of goodwill which may be firmly relied upon.

The many mansions and other beautiful residences with which our country abounds reflect this deeper element of our hearts and lives, and will be found worthy of your notice.

I believe it is generally agreed that our modern domestic buildings present a noteworthy development of our art, and one that is almost peculiar to this country. We cannot show you streets leading to public buildings of such stately character as may be seen and admired in other great cities of Europe, and our public buildings themselves are consequently at a disadvantage.

The new Approach to Buckingham Palace and the Memorial to Queen Victoria—designed by Sir Aston Webb—show what might be done if only such opportunities were more frequently given.

Had Sir Christopher Wren been allowed to carry out his plans for laying out the City after the Great Fire, there would have been no lack of fine streets to show you, or of splendid vistas opening up to view every building of importance. But there was no Minister of Fine Arts to turn the scales in favour of an enlightened policy!

Having drawn attention to some of the features and conditions of British Architecture, let me acknowledge, on behalf of my countrymen, how much we have learnt from, and how much we have profited by, the many splendid examples of Architecture which are to be found and admired in your respective countries. We naturally and instinctively turn to the South for that which is bright and beautiful. The warmer temperament of the southern artist is favourable to productive fancy.

We see that the nations amongst whom the love of beauty is a national trait, instinctive and inherited, seek it in all their works, and set forth their national greatness in their public buildings—an element in the education of the people which no Government can afford to despise.

The union of the arts in which we believe the secret of your success to lie is not so advanced amongst us as with you; but signs are not wanting even here of the growth of a closer bond between them, and architects and sculptors will be found collaborating on a building to present its distinctive purpose with greater clearness and beauty before the eyes of men.

The utilitarian cast of mind, running ever in its one groove, may laugh or even sneer at this; but from a national as well as humanitarian standpoint, there can scarcely be a greater mistake than to overlook and neglect the emotional side of man's nature.

The greater the advance in civilisation, the more pressing the claim of the emotions of the people to due recognition and well-balanced development on true and right lines.

Feats of engineering, appealing to the intellect, astonish but do not move us; but works of beauty, buildings of graceful proportion and appropriate design lift the beholder above the vulgar and commonplace into a higher region, and fill the heart with lofty ideals and pleasurable emotions.

The aim and purpose of the Congress is the welfare of the people. This can only be accomplished by raising the ideal both of architects and the public, by setting a higher tone and proposing a nobler end for all work, and thus lifting that which would otherwise be blankly material, utilitarian, and common-place into the region of the beautiful, the elevating, and the inspiring.

In conclusion, permit me once again to offer you all a heartfelt and most cordial welcome. I trust that the Congress will be a great success, and that your visit to London will prove both a profitable and an enjoyable one.

Delegates' Replies.

The President's Address concluded, Mr. W. J. Locke, *Secretary*, formally presented the official report of the labours of the Executive Committee as set out in the Programme of the Congress, and went on to read a statement briefly summarising the proceedings of the Committee and the arrangements that had been made for the instruction and entertainment of the Congress.

Brief replies to the President's Address were then made by the following representatives of foreign countries:—

Austria, Prof. Otto Wagner; Belgium, Monsieur J. J. Caluwaers; Denmark, Etatsraad Vilhelm Dahlerup; Holland, Mynheer J. T. Cuypers; France, Monsieur H. Daumet; Germany, Herr H. Muthesius; Greece, M. A. Metaxas; Hungary, Monsieur J. Berczik; Italy, Prof. d'Andrade; Japan, Mr. S. Chujo; Portugal, Senhor Ventura Terra; Russia, M. Robert Böker; Spain, Señor Don Velasquez Bosco; Sweden, Prof. Clason; United States, Mr. George B. Post.

Some of the speeches were in English, others in the language of the country represented. All spoke of the pleasure the delegates had in visiting England, of their appreciation of the honour of being chosen to represent their country, and of their cordial wishes for the success of the Congress. M. Caluwaers (Belgium) congratulated English architects on their modern buildings in which, he said, they showed themselves worthy followers of their great forerunners, and he referred particularly to the splendid collections in the London museums. M. Daumet (France) congratulated us on our unrivalled collection of classic work in the British Museum, and the benefit which must accrue to students from the study of such superb models. Herr Muthesius (Germany), who spoke in English, said that German architects knew especially how much the world had to learn from England in domestic architecture from which ideas were emanating and revolutionising the world of architecture; and he suggested that the foreign representatives should be shown specimens of the best English domestic architecture of the day. Mr. S. Chujo (Japan) said that architecture had to play its part in the change that Western civilisation had brought about in Japan. The Institute of Japanese Architects, he said, would watch the development of architecture in their country, and strive to influence it in the proper direction. He hoped to see a future Congress in Japan and to see there all those assembled at the present Congress. M. Böker (Russia), who spoke English without any trace of foreign accent, said he knew from past experience how warmhearted and sympathetic was the welcome the hospitable English invariably extended to all foreigners, and he could not help feeling impressed by their cordial reception on the present occasion. Professor Clason (Sweden) referred with admiration to the taste and skill displayed by the English in their architecture; he observed with pleasure how the designs were based on historical tradition combined with rational construction.

The Duke of Argyll's Inaugural Speech.

The Duke of Argyll, in his opening remarks, said he should emulate the brevity of the foreign delegates, whom, on behalf of the Home Section of the Congress—and the Princess associated herself with him—he most cordially welcomed, and he hoped they would spend a very pleasant time in England. The Princess had never been so greatly daring as to make designs and become the architect of any great building, but it had been her pride to interest herself in the sister art of sculpture. It was a very great pleasure to converse with an architect, for in doing so one had a feeling as if one were building a house—one of the joys of this life. It was a joy if one built it with one's own gold, and so much the greater joy if one could build it with one's friends' gold, and if one could dip one's hand into the Treasury and build it with the money of the public purse, that was the supremest joy of all! Architecture was a great art, one which allowed of no shirking. There was no such thing as impressionist architecture. It was an art which was thorough, real, and earnest. He did not think they need be ashamed of what they could show their friends from abroad in the shape of English architecture, notably perhaps in church architecture. One of the greatest of American generals, when asked what he liked best in his recollections of the old country, said, after a pause:—"The seven lancet windows of York Minster." But in other buildings he thought we could hold our own, as we did in that Guildhall, and under the shadow of the fabrics erected by Wren and by Barry. We must, however, remember the country from which so much of our inspiration came—namely, Italy. It was, after all, not so very long since we were a province of Rome, and beneath the surface of this country, if one were to dig down, there would be found any amount of Samian pottery and other indications of the Italian people whence we got our inspirations. They on their side were indebted to the colonists who came to them from Egypt and also from Greece. When they thought of Italy, they must think of the magnificent mediæval fortresses and fortress-houses in Genoa, in Florence, and in Rome. And then, again, when they thought of France, let them think of those marvellous châteaux on the Loire and elsewhere. Let them think, again, of the triumphs of Spain, of the Escurial, and of other magnificent buildings, not to speak of those in the Low Countries nearer home. In the future it might be surmised that in our domestic architecture we should be compelled by our motor-omnibuses and our traction engines to go back to a more ancient system of architecture—namely, rooms within a court. And there was another great development which he did not think had been alluded to—*i.e.*, in buildings which could not strictly be called architecture—and that was in the curious fabrics arising here and in America, buildings in a steel cradle. We had had experience recently in San Francisco of the disastrous effect of earthquakes on buildings, and such structures as these seemed to stand earth tremors better than others, and it might be that buildings would be built like the earth itself, with rock and with steel running through it, and buildings of this kind might become a feature of future architecture. He hoped they would meet the present company again—in another country, if not in this.

On the motion of Sir Aston Webb, R.A., a vote of thanks was passed by acclamation to the Princess and to the Duke of Argyll for their kind interest in the Congress, and to the Duke for his remarks at the inaugural ceremony.

The Duke briefly replied, and mentioned that by the courtesy of the Lord Mayor and Corporation the Guildhall Art Gallery, containing a valuable collection of works of Belgian painters, was thrown open to members, and could be forthwith inspected.

At the close of the proceedings the foreign representatives were successively presented to the Princess, who graciously tendered her hand, intending to shake hands; the delegates, however, one and all bowed low and kissed the Princess's gloved hand.

A large number of the members availed themselves of the opportunity to visit the Art Gallery and see the Belgian pictures there on view.

Soirée at Burlington House.

At the reception held in honour of the Congress by the President and members of the Royal Academy at Burlington House on the evening of the opening day, some three thousand guests were present. The staircases were beautifully decorated with palms and flowers, and the band of the Royal Artillery, under Cavaliere Zavertal, was in attendance, and played in the Lecture Room. The guests were received by Sir Edward Poynter, P.R.A., and

the Duke of Argyll again honoured the Congress by his presence at the function.

The foreign visitors expressed themselves delighted with their entertainment, and not least with the opportunity of inspecting the year's show of Academy pictures under such agreeable conditions.

Reception at the Mansion House.

On Tuesday evening, 17th July, members of the Congress were the guests of the Lord Mayor of London, Sir W. Vaughan Morgan, Bart., at the Mansion House. The guests on arriving were received and welcomed by the Lord Mayor and Lady Mayoress, attended by some of the principal City dignitaries in their robes of state. A numerous and distinguished company had been invited to meet the visitors, and the scene presented in the noble Egyptian Hall and Ball-room was a strikingly brilliant one. Some vocal music was excellently rendered by Misses Macleod and Cook and Messrs. Sidwell Jones and Rainger, and selections of instrumental music were performed at intervals during the evening by Herr Stanislaus Wurm's Orchestra. Needless to add, the traditional hospitality of the Mansion House was fully maintained on the occasion.

The Institute Garden Party.

On Thursday, 19th July, the Institute entertained the Congress at an evening fête held in the Gardens of the Royal Botanic Society. The President, supported by several members of the Institute Council, received the visitors at the entrance of the large Conservatory, near the Broad Walk, from 9 to 10 p.m. The gardens were brilliantly illuminated with limelights, and beautifully decked with Chinese lanterns hung from tree to tree. Particularly effective were the innumerable tiny lamps glittering amidst the dark foliage of the trees.

By kind permission of Colonel Fenwick, the magnificent band of the Royal Horse Guards Blue played in the gardens throughout the entire evening under the direction of Mr. Manuel Bilton. A compliment much appreciated by the foreign guests was the performance by the band of the National Anthems of the various countries represented at the Congress. In the Conservatory a selection of music was exquisitely rendered by the "Ladies' Salon Quintet," a piano and a quartet of strings played by lady artists led by Miss Maud Aldis. A further attraction in the gardens was the pastoral play "A Midsummer Night's Dream," performed by Mr. Patrick Kirwan's troupe of "Idyllic Players," the Singing Fairies being personated by Messrs. Bellew and Stock's Choir. Refreshments were served in the Marquees on the East Lawn of the Gardens.

During the evening a pleasing little ceremony took place in the Committee-room of the Gardens. Assembled in the room were Mr. Belcher and some members of the Institute Council, when M. Daumet, accompanied by several of his distinguished colleagues, advanced and presented to Mr. Belcher a replica of the beautiful medal of the "Société des Architectes diplômés par le Gouvernement," as a gift from the Société to the Institute in memory of the occasion. On the obverse of the medal was inserted a small panel bearing the inscription "A l'Institut Royal des Architectes Britanniques.—VII^e^ Congrès International des Architectes à Londres 1906." The gift was accompanied by a graceful little address from M. Daumet in French, which was suitably acknowledged by the President. The medal, it may be mentioned, was on view at the President's "At Home" on the 23rd ult., and is now deposited in the Library [*see illustration below*].

The Garden Party was undoubtedly a great success, and seemed to be keenly enjoyed by the foreign visitors, especially by the French. Altogether 1,200 guests or more were present.

MEDAL PRESENTED TO THE INSTITUTE BY THE FRENCH SOCIÉTÉ DES ARCHITECTES DIPLÔMÉS PAR LE GOUVERNEMENT.

THE VISITS.

The various excursions arranged for the Congress included visits to Hatfield House, by the kind consent of the Marquis of Salisbury; Hampton Court Palace; Windsor Castle and Buckingham Palace Gardens, by His Majesty's gracious consent; Westminster Abbey; the works of the building contractors, Messrs. Holloway, and the potteries of Messrs. Doulton; St. Paul's Cathedral, the Temple, St. Bartholomew's, and the Institute of Chartered Accountants; Oxford and Cambridge (all-day visits); the Tower of London, Victoria and Albert Museum and Royal College of Science, Bridgewater House, Greenwich Hospital, Houses of Parliament, and the Roman Catholic Cathedral of Westminster. The following reports are mainly contributed by the gentlemen who kindly undertook the charge of the various visits.

Hatfield.*—Tuesday, 17th July.

On Tuesday a large party of members, numbering between 500 and 600, journeyed to Hatfield by special train from King's Cross. Brilliant weather favoured the visit.

The party was received at the entrance of Hatfield House by Colonel Balfour, who very kindly gave a short historical account of the mansion, pointing out various features of interest. The members were then divided into batches of about thirty and conducted through the principal rooms.

The beautiful gardens were seen to great advantage, and were probably appreciated quite as much as the house.

Other points of interest were the old banqueting-hall with its fine open-timber roof, now used as a stable; and the adjoining church, &c.

An ample tea was provided in two or three of the hotels and inns in the town, after which the party returned to town, arriving about 6.30.

Henry T. Hare.

Hampton Court.—Tuesday, 17th July.

The Hampton Court visit was attended by nearly 300 members, and under the able guidance of Messrs. Maule and Chart and their assistants, the party were enabled to see a very great deal of the beautiful building in a short time, also to have tea at the riverside hotels in time to catch the train back. The visitors seemed most to enjoy the splendid collection of pictures in the Georgian rooms and the grounds with their charming vistas and well-kept beds and lawns.

Henry Tanner, Jun.

Buckingham Palace Gardens.—Wednesday, 18th July.

This visit seemed to be one of the most popular of all, as between 450 and 500 members of the Congress were present, and the crowd waiting in Grosvenor Place for the opening of the gates must have been a surprise to passers-by, who no doubt thought that a royal procession was about to pass.

The King was not at the Palace, but the Queen was in residence, though nobody was fortunate enough to see her. The members were not admitted into the building, but all seemed to enjoy the stroll through the gardens very much, to judge by the amount of urging that the tail end of the party needed to get them to the exit, which was at the front of the Palace, where 'buses were waiting to take them to Westminster Abbey.

Henry Tanner, Jun.

* In charge of visit, Mr. D. G. Driver, Secretary A.A.

Messrs. Doulton & Co.'s Works. Wednesday, 18th July.

The works of Messrs. Doulton & Co., Limited, are on the southern bank of the Thames, adjoining Lambeth Palace, the seat of the Archbishop of Canterbury. They cover an area of some acres, the different sections being devoted to the separate manufactures of architectural terra-cotta, sanitary stonewares, sanitary fittings in metal and wood, crucibles, household pottery, &c. The section of the Lambeth Works open for inspection comprised the showrooms, the studios, and the factories for stoneware and architectural terra-cotta.

The visit was attended by some 350 members of the Congress, including many ladies, and great interest was shown in the various processes which were seen in operation. Here was the bench where the potter working at his wheel takes a shapeless lump of clay and, with a dexterity more wonderful than any sleight-of-hand, moulds the material to the shape of close-necked jug of sturdy proportions or slender vase with delicate rim; while in another part of the building were women applying moulded ornament in relief or laying on the pigments that when burnt produce those rich and varied colours which distinguish the "Doulton" ware.

To architects not the least attractive part of the visit was the opportunity afforded of not only seeing the methods adopted in the design and execution of wall decorations such as painted tile-panels, but also some of the latest refinements in the application of sanitary science to hospital and domestic uses.

In the course of the route taken through the factories, a certain number of ware kilns were seen, some being filled and others emptied of their contents. The largest kilns take about fourteen days to "set and draw" Here each week some 30 miles of stoneware pipes are turned out, 2,000 tons of clay used, and 1,700 tons of coal consumed.

Messrs. Doulton, not unmindful of the comfort of their visitors, had provided tea and light refreshments, which were much appreciated on that hot afternoon in July. The members returned by motor omnibus to the northern side of the river, the visit being completed at about 6 P.M.

A. Maryon Watson.

Messrs. Holloway Brothers (Lim.). Wednesday, 18th July.

The inspection of these premises at Belvedere Road, despite simultaneous attractions at Lambeth, was well patronised, and the members who availed themselves of Messrs. Holloway Brothers' hospitality were amply rewarded.

Entertained to tea on arrival the visiting party split up into small sections, and under the leadership of the members of the staff made a tour through the shops and yard. In some cases, oblivious of the surrounding industry, the guests wandered along the wharf and admired the beautiful river prospect, with perhaps a thought for municipal palaces. In the yard itself the moulding machines, rubbing tables, and powerful stone-cutting saws attracted much attention; while as far as the shops were concerned it was interesting to observe

how the foreign members crowded round an example of a sash-window, which was repeatedly lowered and raised for their edification, and before leaving its fascinations quite a number of window-cords were chopped up for presentation purposes and removed as souvenirs.

The complete lesson in building construction to be learnt on these works accounted for the difficulty in persuading the members to leave at six o'clock, and it was only on the positive assurance that the last motor was beginning to throb its departure that they reluctantly submitted to the kind offices of a gentleman armed with a clothes-brush.

J. MacLaren Ross.

Windsor Castle.—Thursday, 19th July.

So great was the gathering at Paddington Station that a relief train, in addition to the special train, was required to convey the members of the Congress to Windsor. The two trains arrived at Windsor within a few minutes of each other, and the party proceeded at once to the Castle.

The admirable arrangements which had been made at the Castle to deal with so large a gathering made the visit a particularly enjoyable one.

The members of the Congress were conducted through the gorgeous State apartments, where the valuable collection of old masters was much appreciated and the beautiful carvings by Grinling Gibbons greatly admired.

In rapt attention and interest the party were conducted from the State Ante-Room through the Rubens Room, the Council Chamber, the King's Closet, the Queen's Audience Chamber, the Queen's Presence Chamber, and through the great Library into the Guard Chamber, and thence on to the Terrace. The gorgeous sumptuousness of these royal and historic apartments have a living interest which perhaps most strongly appealed to the representatives of our Colonies and republican countries.

After the lovely view had been admired from the Terrace the company proceeded to St. George's Chapel. The fascination of the choir was irresistible. It is here that divine service is held at the ceremony of installing the Knights of the Garter, and the helmets and banners of the living knights hang over the stalls.

The visit here, as perhaps elsewhere in the Palace, was too hurried.

Most managed to get some tea before returning to London, which was reached in time to allow members to prepare for the reception at the President's party at the Royal Botanical Gardens in the evening.

George Hubbard.

St. Paul's Cathedral, The Temple, St. Bartholomew's, Smithfield, and The Institute of Chartered Accountants.—Thursday, 19th July.

The party, which numbered about thirty, assembled at the west steps of St. Paul's Cathedral at 2.30 p.m., and were received by the President. Archdeacon Sinclair conducted us round the Cathedral, and gave a lucid description of the various features, including the Crypt and the Whispering Gallery, the latter being of exceptional interest.

After spending an hour in the Cathedral we proceeded by motor 'bus to the Temple Church, where we were received by the Master of the Temple, who gave an interesting account of the history of the church, and afterwards conducted us over the halls of the Temple.

The next visit was to the Church of St. Bartholomew the Great, Smithfield, where the party were met by Mr. Alfred Webb, one of the churchwardens, and brother to Sir Aston Webb, R.A., who recently restored the church.

On the way to the Institute of Chartered Accountants we stopped for a few minutes at Winchester House and Electra House, both of which were designed by the President, who explained any details upon which information was asked.

Finally we arrived at the Institute of Chartered Accountants, where Mr. Belcher conducted the party over the building. This proved to be one of the most interesting and instructive visits of a very busy afternoon.

An expression of thanks is due to the Chief Commissioner of City Police, who provided the services of Detective Constable Nicholls, whose assistance was most useful with regard to the traffic.

C. E. Hutchinson.

Kensington Palace and Dorchester House. Thursday, 19th July.

Sir John Taylor met the members in the Broad Walk, Kensington Gardens, and on the way to the Palace conducted them through the Orangery, which is a perfect specimen of garden architecture designed by Sir Christopher Wren, with some internal wood carving by Grinling Gibbons.

The party were then taken over the Palace by Sir John, whose remarks were very interesting, particularly so as all the restoration was done under his superintendence some seven years back. After going through the various rooms (which in some instances were perpaps more interesting from an historical rather than an architectural point of view, although there is some very fine oak panelling and more of Gibbons's excellent carving) the party proceeded through the quaint courtyard past that portion of the Palace in the occupation of the Duke and Duchess of Argyll, round the exterior of the building.

A little garden alcove, evidently Wren's work, was much admired, as was also the statue of our late Queen, designed by her talented daughter H.R.H. Princess Louise.

Thence the party proceeded in motor omnibuses to Dorchester House, where they had a most enjoyable time. The American Ambassador and Mrs. Whitelaw Reid kindly received the members, and their Excellencies' hospitality was greatly appreciated. The marble staircase and fine suite of rooms, with their priceless collection of pictures and furniture, were greatly admired, including the caryatide chimney-piece designed by the late Alfred Stevens.

The members were able to take their own time looking through this mansion, which was designed by Lewis Vulliamy in the style of the Italian Renaissance. Its collection of pictures include examples of the work of Rembrandt, Rubens, Paul Potter, Cuyp, Claude, Hobbema, and other eminent masters.

Septimus Warwick.

College of Science and Victoria and Albert Museum. Friday, 20th July.

Some fifty members visited these buildings, assembling at 3 o'clock at the College of Science, where they were met by Sir Aston Webb, R.A., under whose guidance the various buildings were inspected. We are indebted to *The Builder* for the following description of the visit. Sir Aston Webb first took the party round the College of Science, explaining the special points of construction

for ensuring freedom from vibration in the physics laboratories, and pointing out that while chemical students, as they advanced in proficiency, moved higher up in the building, for the sake of better light, physics students began at the top of the building and descended to the ground floor as they advanced in the classes, as what they required above all things was a solid foundation and freedom from disturbance by vibration. The upper story of the physics department showed the only wooden roof in the building, steel being avoided here on account of its disturbance of experiments in electricity and magnetism. The roof is of sequoia wood, which has been largely used in the building, and looks very well. A gallery has been constructed along the centre of the roof framing, to afford an opportunity for pendulum experiments. In regard to the main staircase, the architect drew attention to the fact that the centre well had been floored over at each level, instead of leaving the staircase hall open to the ceiling; the architectural effect might suffer, but the open staircase hall would have been noisy, whereas the construction of a floor at each level not only prevented this, but also gave the students a convenient place on each floor to assemble when necessary. After looking at the exterior of the building from the opposite side of the road, the party proceeded down Exhibition Road and round by Thurloe Square, in order to get a view from there of the portion of the front of the Victoria and Albert Museum from which the scaffolding is now uncovered. The architecture from that point looks very bright and sparkling in effect, and the portrait sculpture in niches comes out admirably. The niches in this portion of the building are filled with portrait statues of eminent architects; those in the corresponding position on the other side of the façade are to represent sculptors; statues of painters are to fill the centre portion, and statues of craftsmen are to occupy the niches on the return front towards Exhibition Road. On these works sixteen among the most able of the younger sculptors of the day have been employed, each sculptor taking two figures. An important point in regard to these stone sculptures is that the stone out of which they are carved has been built into and bonded to the walls, and the carving then executed *in situ*, so that there will never be any trouble from the failure of cramps and the possible danger of the falling out of a figure in consequence. The party then entered the building, which of course is at present only in a shell state inside; but by reference to a large plan displayed in the centre hall Sir Aston explained the arrangements of the new portion of the building. On entering the central hall the spectator has the whole length of the building visible to him to right and left along the western and eastern courts. The original fan shape of the plan had been departed from when the architectural courts were built with an axis placed at right angles to the line of Cromwell Road at that point; and this occasioned the special treatment of the plan of the front façade, in order to keep the western portion at right angles with Exhibition Road, and at the same time to have the eastern portion at right angles to the axis of the architectural courts. Care had been taken, in setting out the plan, to provide for vistas which might lead up to important works of art. The West Central Court and East Central Court have been planned in a basilica form, with side aisles divided off by columns, the aisles being finished with a cross-vault ceiling, the intention being to place here works of ecclesiastical art in a surrounding somewhat suggestive of a church. There will be no elaborate decoration, however, as the principle throughout the treatment of the interior is that the exhibited works are to be the decoration, and that the building is only, as it were, a case to contain them. The North-Western Court, a square reduced by the large niches to an octagon, will probably be used for the exhibition of sculpture. The smaller galleries will be used for collections of works of special character—one for silver work, another for textiles, and so on. The walls are all to be finished internally in a substance called "cranham," which, while sufficiently hard, will admit nailing into it for the fixing up of such smaller works or cases as may be hung to the wall. In passing through the building, Sir Aston pointed out that the large arches which form partial architectural divisions, such as those across the western and eastern courts, and those in the entrance-hall, are all of the same centres and dimensions, so as to give a note of unity to the principal features of the interior. After traversing the principal parts of the building, the visitors were invited to a tea provided in the room adjoining the main refreshment-room of the old buildings, when a member expressed, on behalf of those present, their thanks to Sir Aston Webb for his invitation and for his lucid and interesting descriptions.

Tower of London.—Friday, 20th July.

Notwithstanding the counter-attractions of Oxford and Cambridge, a fair number of members visited the Tower of London on Friday morning to take advantage of the special privileges the occasion afforded of being shown over various parts of the buildings not usually open to the public.

Every facility for this purpose had been provided by the Chief Constable, to whom grateful thanks are due.

The party, having inspected St. John's Chapel, assembled on the roof of the White Tower. Here Lord Dillon, the Curator of the Tower Armouries, delivered a short but very interesting address, and by the aid of plans and sections explained the buildings, tracing their history and use, especially of the White Tower.

After his Lordship had drawn attention to the chief specimens of armour to be seen in the Tower, and the various characteristics of each, the party divided into groups, and each group, accompanied by a Yeoman warder, made a tour of inspection of various parts, ending up with the Wakefield Tower and Crown Jewels.

The Tower Bridge was then visited, and proved a highly satisfactory ending to the morning's sight-seeing.

Through the courtesy of the City Surveyor, Mr. Sidney Perks, a minute inspection of the machinery for working the bascules was possible. Accompanied by the resident engineer, Mr. Gass, a complete tour was made of the bridge, not only to the high level, but also as low down as the bed of the river.

The various operations for lifting the bascules, each of which weighs some 1,100 tons, were carefully described and seen at work—truly an object-lesson in hydraulics those present are not likely to forget.

J. P. Figgis.

Oxford.—Friday, 20th July.

On Friday the programme for the Congress included visits to Oxford and Cambridge Universities. Fortunately the weather continued to be most favourable.

About five hundred gathered at Paddington, where a special train was in readiness at ten o'clock. Oxford was reached by 11.35, and here the four sections into which the large party were divided, separated. Each group was provided with a separate programme showing its own special route.

The sections were led—one by Messrs. Reginald Blomfield, A.R.A., and H. C. Corlette, and the others by Messrs. E. P. Warren, C. Barry Cleveland, Paul Waterhouse, and Charles Bone. These were helped very much in every way by the unfailing courtesy of all the visitors.

After a pleasant morning spent among the various colleges, luncheon was provided in the halls of Magdalen, Exeter, and Balliol, and at the Randolph Hotel. In each case the visitors were most hospitably entertained.

The entire party assembled at Magdalen afterwards, where there was a reception by the Provost. After being shown through the more interesting parts of the college the visitors saw the gardens, which are at their best at this season. These latter seemed greatly to delight the foreign guests, and altogether this typical college excited great admiration.

After this the several sections proceeded to the brakes, and continued the visits as arranged on their respective programmes.

In every case the kindness with which the visitors were received at the various colleges, and shown over the buildings and gardens by some members of the college, was most keenly appreciated. This ready hospitality was acknowledged with many hearty thanks in the speeches made before the several luncheon parties separated, and by individual acknowledgment on every hand during the day. To Mr. Charles Bone is especially due the thanks of the whole party, for it would have been impossible to arrange for the comfort of so many had it not been for the skill in detail of organisation and the great amount of time and energy he devoted to the success of the Oxford visit.

H. C. Corlette.

Cambridge.—Friday, 20th July.

On Friday a large party from the Congress visited Cambridge. Though the morning was dull and threatening, the first arrivals made their appearance at St. Pancras nearly an hour before the train was due to leave, and until the moment of departure, nearly twenty minutes late, more members continued to arrive. Luckily for us, the weather cleared during the journey, and we drove down to the Senate House in bright sunshine. Here we were received by the Master of Trinity, acting for the Vice-Chancellor, who was unfortunately away from Cambridge. The foreign delegates were presented to him, and he then delivered a short but characteristic address of welcome. We then proceeded down Trinity Street, where one or two old house-fronts came in for a good deal of notice, to the great gate of Trinity. Dr. Cunningham received us here, and conducted the party over the College, showing us, among other things, the early front of the buildings facing the bowling green, lately discovered and restored, the chapel, kitchens, and hall, and so along the famous lime tree avenue to the Fellows' Garden, looking its best in the sunshine. Then the party drifted towards lunch, a large number visiting Caius *en route* ; and divided into three, the largest number, with the President and the Master of Trinity, going to King's, and smaller parties to Clare and Trinity Hall.

After lunch there was a short rest, devoted by many of the foreign members to the purchase of photographs and picture post-cards, and then we reassembled in King's Chapel, where the Provost explained the history and origin of the building and the College. Speaking in French for the benefit of the numerous French and Belgians among the party the Provost said :—

" La Chapelle de King's College est le seul parmi nos bâtiments qui ait été achevée en conformité avec les projets de notre fondateur, le roi Henri VI. C'est le roi même qui a posé la première pierre de cet édifice, le jour de la fête de S. Jacques, 25 juillet 1446 (il y a juste 460 ans). Grâce aux guerres civiles si désastreuses qui désolaient notre pays, la maçonnerie du bâtiment n'a pu être achevée avant l'an 1515. Encore vingt ans et les vitraux et les boiseries étaient en place. Le roi Henri VI a donc commencé la construction. Le roi Richard III y a contribué. Le roi Henri VII à la fin de ses jours a repris l'ouvrage interrompu ; c'est lui qui a complété la construction en pierre. C'est au roi Henri VIII que nous devons nos vitraux et la plupart des boiseries. La chapelle ne devait pas être isolée comme on la voit. Elle aurait dû être liée avec des bâtiments constituant une grande cour quadrangulaire, de sorte que, vue aujourd'hui, sa régularité est excessive. Quelques mots seulement sur autant de pointes frappantes. Comme construction on trouve des ressemblances entre la chapelle et la magnifique basilique de Sainte-Cécile d'Albi. Même absence de bas-côtés, même disposition de chapelles entre les contreforts. Les blasons qu'on voit sur les contreforts et qui revêtissent les murs de la nef sont ceux d'Henri VII, non pas d'Henri VI. La grande voûte selon le projet du fondateur était destiné à recevoir un coloris très éclatant : les nervures dorées, les clefs de voûte peintes, le fond bleu. Les vitraux datent des années 1515 à 1534. Quatre étaient l'ouvrage d'un certain Barnard Flower, peintre-verrier du roi. On compte parmi ce nombre le deuxième, au-dessus de la porte du nord, et celui aussi qui est maintenant sous réparation. Les ouvriers des autres étaient domiciliés à Londres. Les noms de quelques-uns paraissent être flamands, mais la plupart en sont anglais. L'ouvrage tout entier fut fait à Londres. Les sujets des vitraux sont tirés de l'histoire de la Sainte Vierge, de notre Seigneur et des Apôtres. Dans la plupart des fenêtres on voit en bas les événements du Nouveau Testament et en haut des scènes typiques tirées du Vieux Testament. La série rappelle vivement les tapisseries de la Chaise-Dieu en Haute-Loire.

" *Les Boiseries.*—Le jubé qui porte le monogramme de la malheureuse reine d'Henri VIII Anne Boleyn date de 1532 à 1536. Le soubassement des stalles est de la même époque. Les armoiries furent ajoutées en 1633. Les dais, exceptés ceux du côté du jubé, étaient faits environ 1675–1680. Le buffet d'orgues est en partie du temps d'Henri VIII, mais la plupart fut posée en 1606."

Then occurred the one variation from the printed programme that had been distributed ; instead of picking up the brakes again at the gate of King's, the party walked along Queens' Lane, and through Queens' College, where the delightful Cloister Court came in for a full measure of praise, and so over the geometrical bridge to the garden gate, where the brakes were waiting to drive us along the Backs. Coming to the back gate of St. John's, we walked through the courts, and were shown the library, combination room, and chapel, and so came again to the brakes, which were waiting for us at the Round Church. The first two or three brakes, getting away rather ahead of the others, made a round through Downing Street to see the new science buildings ; the others went straight up St. Andrew's Street and Regent Street to the station, where the refreshment rooms coped more or less successfully with the heavy demands for tea. That the arrangements worked so smoothly throughout was mainly due to Mr. Fawcett, who managed all the preparations at Cambridge ; to Messrs. Cook's representative, and to the co-operation of a large number of the English members, who were always ready to help in any way that was necessary.

G. F. Blackburne Daniell.

GREENWICH HOSPITAL.—Saturday, 21st July.

On Saturday afternoon, 21st July, about 250 members paid a visit to Greenwich Hospital. The journey was made by river, and a special steamer conveyed the party to Greenwich.

They were met by Mr. A. L. Perfect, Civil Engineer for the Admiralty in the Greenwich District, and Mr. Edgar A. Hawkins, A.R.I.B.A., of the Admiralty, who had most thoughtfully provided a large-scale site plan of the Hospital.

Mr. Hawkins, before proceeding to conduct the members round, gave them a very interesting description of the buildings and their history.

A visit was first paid to the chapel; after this the Queen Anne's quarter was seen, where the visitors were most interested in the old crypt to the church of the Palace of Placentia.

After walking round the buildings and through the courts to see the elevations of the various blocks, the Painted Hall was visited, the members being especially interested in the paintings and the pictures.

By the courtesy of the authorities, the party were allowed to inspect the collection of original architectural drawings, some of them being by Sir Christopher Wren.

They then visited the School with its various buildings, and also the Queen's house. The old Ship in the Fore-court was viewed with great interest.

Time did not allow the visitors to walk through the park to the Observatory, and after partaking of tea at the Ship Tavern the party returned again by boat to Charing Cross.

Not the least interesting part of the afternoon was the journey up and down the river, which enabled our visitors to see many buildings of interest and also the busy life of the river.

F. DARE CLAPHAM.

HOUSES OF ARLIAMENT AND WESTMINSTER HALL.—Saturday, 21st July.

On the occasion of the visit to the Houses of Parliament the buildings were closed to the general public—a circumstance peculiarly favourable for the inspection by a body of architects. The members of the Congress, some 300 in number, assembled at the Victoria Tower, and, passing into the Palace, were met at the head of the broad stairway from the Norman Porch by the State and Office of Works officials. An announcement was made that Captain Butler, Yeoman Usher of the Black Rod, was present on behalf of the Lord Great Chamberlain, by whose permission the visit had been arranged; also that Sir Henry Tanner, I.S.O., principal architect of H.M. Office of Works; Mr. J. B. Westcott, M.V.O., architect in charge of the Houses of Parliament; Mr. Patey, resident engineer; and the Clerk of Works, Mr. Ridge, each with a staff of assistants, were there to render any services that might conduce to the usefulness and interest of the visit. After a formal introduction of the Congress the visitors entered upon the tour of the Palace. Captain Butler, assisted by Mr. Williams, Superintendent of the House of Lords, explained the many interesting features of the various chambers and apartments. The Congress passed through the King's Robing-room to the Royal gallery, the scene of many now almost historic pageants, thence through the Princes' Chamber, in which the portraits of the wives of Henry VIII. were seen. Entry was then made to the House of Lords. The Upper Chamber appeared to have a piquant interest for our Republican and Democratic visitors. The Throne was uncovered, and the "Woolsack" and the various sections of the chamber occupied by the Princes and Peers of the realm were pointed out, and then a move was made to the Central Hall. The famous "Moses" fresco by Herbert, and those not less beautiful by Cole, in the Commons' corridor were viewed *en route* to the Commons' Lobby, and then the "House" itself was entered. The seating accommodation for 670 members was evidently a matter of much wonderment to our foreign visitors, in view of the fact that one section of those present, some 150 in number, alone appeared to fill the House. After a tour of the division lobbies a move was made to the interesting fan-vaulted corridors, used as cloak-rooms by the members of the House; thence to the crypt of St. Stephen's Chapel, and the Congress had at last come upon the much-looked-for "antique." The crypt, originally known as the Chapel of St. Mary in the vaults, many years in building, was finished about 1350, in the reign of Edward III. All that now remains of the original St. Stephen's Chapel is still in excellent preservation; the decoration, of course, is modern. Westminster Hall now demanded the attention of the Congress, full as it is of its own grandeur and of many historic associations. Here Sir Henry Tanner sketched a short history of Westminster Hall, drew attention to interesting features, and recalled the dates of building. There now remained to be accomplished a visit to the cool shades of the Terrace by the river, and the route thereto through the many internal courts disclosed abundant evidence of the skill that Barry bestowed on every part and detail of his great work. Throughout the visit Captain Butler and all officially connected with the Palace of Westminster afforded the Congress every reasonable facility and the fullest information. The work of interpretation to the foreign delegates was effected by the willing help of Mr. C. L. Veale and Mr. W. H. David, of H.M. Office of Works. It seemed to be the opinion of the members of the Congress that the visit to the Palace of Westminster had proved most interesting and successful; certainly it was evident that the foreign delegates had found much to admire in the national monuments of which all English-speaking races are very proud.

SYDNEY B. BEALE.

BRIDGEWATER HOUSE.—Saturday, 21st July.

This visit proved to be a very popular one, upwards of three hundred members and others going over the house in the course of the morning. Bridgewater House, erected in 1848, from the designs of the late Sir Charles Barry, is in itself interesting as a good specimen of modern English architecture. In the centre of the house is a large hall, surrounded, on the upper floor, by an arcaded and richly decorated gallery.

The chief attraction, however, is the fine collection of pictures by Raffaelle, Titian, Nicholas Poussin, Rembrandt, Velasquez, and many others. By the extreme kindness of Lord Ellesmere, the members of Congress were enabled to see everything, even in the private rooms.

G. F. COLLINSON.

THE CONGRESS BANQUET.

The Farewell Banquet was held in the Victoria Rooms of the Hotel Cecil on Saturday, the 21st ult. Covers were laid for nearly five hundred guests. This being about as many as the dining-hall could comfortably accommodate, the dinner-list had had to be closed some few days beforehand, and numerous applications for tickets had had to be refused. The foreign delegates were all accorded places of honour at the tables, and among other guests at the high table besides the President and Mrs. Belcher were the Duke of Northumberland, the Netherlands Minister, the Greek Minister, M. and Mme. Metaxas, Sir Lawrence and Lady Alma-Tadema, Sir William and Lady Emerson, Sir Henry Tanner, Sir John Taylor, Sir Aston and Lady Webb, M. Daumet, Mr. George B. Post, Herr Otto Wagner, Dr. Muthesius, M. and Mme. Caluwaers, M. and Mme. Benois, &c.

Presiding at the lower tables were Mr. Alexander Graham, *Hon. Sec. R.I.B.A.*, Messrs. John Slater, Edwin T. Hall, J. S. Gibson, Reginald Blomfield, A.R.A., M. Nénot, H. Heathcote Statham, Maurice B. Adams, H. V. Lanchester, W. A. Forsyth.

The cover of the menu card was very kindly designed for the Congress by Sir L. Alma-Tadema, R.A., and represented Architecture with her sister arts Painting and Sculpture. A reproduction to somewhat smaller scale accompanies this number.

Grace was sung and a selection of glees rendered during the evening by "The Westminster Singers." The toasts were limited to the usual loyal toasts, the Foreign Delegates, and the Royal Institute of British Architects.

In proposing The King, the Chairman said that His Majesty had done a great deal in the interests of peace, and peace was a necessary condition if the arts were to flourish. Long may we all enjoy the blessing of peace, Mr. Belcher concluded, and may the reign of His Majesty be distinguished by a great advance in the art of architecture!

Sir William Emerson, in proposing "The Foreign Delegates," said that their presence in England had afforded infinite satisfaction and pleasure to their hosts. The result of the Congress, the success of which had been greatly due to their friends from other countries, would be productive of good in the highest sense of the word—good not only to the architectural profession, but good to humanity at large. Sir William, after a reference to the important discussions that had taken place, said that the Congress had also had the effect of bringing together and creating intimate acquaintance and friendship with many men of many countries, and in relation to the widespread feeling of a universal *entente cordiale* it must be greatly encouraging to such a sentiment, for we learn by such meetings as these that in every country, no matter what it might be, there were equally thoughtful, unselfish, good, clever, and kindly personalities; in fact we found them one and all what in common English parlance we called "jolly good fellows." It was only to be regretted that, with so many various schemes for our mutual edification and for the entertainment of our visitors during the week, the time had been far too short for them to see much of the interesting old and historic architectural monuments of the country. Many beautiful old country mansions and halls would have been well worth a visit, and, of course, only a few of our castles, cathedrals, and abbeys could possibly be examined. Still, the best possible had been done to show the most in the shortest time. One thing at least we had as Englishmen learned from our distinguished visitors, and that was how great a charm there was in the felicitous expression of nice feeling and sentiment as conveyed in their many charming short speeches. The British did not, as a rule, express themselves with ease and felicity at a moment's notice, whilst our Continental friends invariably did so in the happiest manner; nevertheless, the inner feeling of the Britisher was no less warm. He could only repeat that it had been a source of the greatest pleasure to see their professional brethren, and he trusted they would take away with them a reciprocal feeling of the truly cordial and warm sentiments of respect and esteem which Englishmen entertain for them, and he was sure he was right in saying that all would endorse his expression of these sentiments.

The toast having been drunk with enthusiasm, the various delegates replied, for the most part in their native tongue. Space will admit of only a few notes of the speeches. As each delegate replied, his fellow-countrymen stood up, and at the close of the speech cheered after the manner of their country.

M. Daumet, who spoke in French, said they had spent a memorable week in London. The International Congress of Architects would leave pleasant memories to those who had been fortunate enough to take part in it, even though the meetings were somewhat confusing to those who did not possess the gift of tongues. What gratitude they owed to its honourable President and those who aided, and to the amiable and obliging Secretary! Those gentlemen had been able, with perfect understanding, to foresee and provide for everything, and they had imparted to the stay of their guests a special element of cordiality. The inaugural meeting of the Congress in the Guildhall was particularly fine and imposing, and the receptions at the Mansion House and Burlington House were most brilliant, while nothing could have been more charming than the excursion to Windsor—that picturesque whole to which each sovereign of Great Britain has for centuries added his share, and in which are stored so many historic remembrances and priceless treasures of architecture and masterpieces of great painters. They should not soon forget the hours spent in those University towns, where scholarly traditions had produced the lights of science and literature in buildings of characteristic architecture. They would remain charmed and subjugated by the variety of aspect presented by halls constructed with such art, by the beauty and poetry of gardens with their lofty trees, which had sheltered so many of the illustrious sons of this fair country. It was impossible to analyse so many and varied impressions without turning their thoughts to those who founded or encouraged such great institutions and the monarchs who had protected them. Concluding, the speaker proposed a toast to the everlasting concord and friendship between artists, to the architects represented by their delegates, and, finally, to the King and to the august Princes and Princesses of his family, the protectors of our art, which they had deigned to honour by becoming patrons of the International Meeting, which came to a close this evening in a brotherly feast.

M. Böker (Russia) said that on behalf of the Russian members of the Congress, which had been brought that day to so successful a termination, he begged to offer their most hearty thanks for the warmth and cordiality of the reception which had been accorded them in England, and the memory of which would never fade from their mind. They would have much pleasure in telling their friends in Russia of the kindness that they had met with in England, and of the magnificent productions of architectural art, both ancient and modern, which they had had the pleasure of admiring. It was difficult for him to find words eloquent enough to express the gratitude they felt, but he trusted that their thanks might make

up by their depth and sincerity what they lacked in eloquence of expression.

Mr. G. Oakley Totten (America) said that, on behalf of his countrymen, he desired to express to their cousins of Great Britain their sincere appreciation and thanks for all the courtesies which had been so graciously and cordially extended to them. The debt America owed their mother country, from whom they had inherited their customs, literature, laws, and the language, which they were said to speak indifferently well, was almost beyond measure. It was to her, too, they owed the best they had in art, that which came to them by inheritance at the time of George III.—which they called Colonial —which they called their own. For the inspiration of their monuments they must ever turn to the glories of Athens and the splendour of Rome ; but for the inspiration of that which was most near and dear to their hearts, the home, they must look to good old England, the creator and builder of the home.

Mr. Cass Gilbert, of the American Institute of Architects, in proposing the toast of "The Royal Institute of British Architects and its President," said that he, the representative of the youngest nation, had been selected to lay this tribute of homage at their feet in the country to which they looked for representative government. It had been said in his country that they should have a national art, and the feeling had grown that they should express themselves in their own way ; but while they had no apologies to make for what they had done, humble as might be their own opinion of it, they thought the time had not yet come for them to have an art of their own. They had unusual conditions in their practice, and perhaps they met those unusual conditions with a certain ingenuity, but with a certain lack of that quality which made a great art. Americans came to Europe to study in France, Germany, Greece, Italy—to all the great nations of the world. They might go as far as Japan for inspiration in that personal art which was so beautiful. Seventy-two years ago the Royal Institute of British Architects was founded, and the time therefore approximated to their time as understood in a little story that he would venture to tell. One of their landscape artists, Mr. Armstead, having planned a great estate, visited the owner, who said to him : "Mr. Armstead, this is a beautiful thing you have done, but there is one defect in it. That knoll over there is a little barren. What would you do with it ?" Mr. Armstead's reply was : "I would plant it with oaks." "But," said the owner, "that is a matter of sixty years." Said Mr. Armstead : "I was looking sixty years ahead." It was that sentiment which inspired them. They were looking sixty years ahead. Those who founded the Institute were looking sixty years ahead, and could they see them that night—in all the glory of that assembly, with all Europe represented there ; and see some of the finest men of the Continent and elsewhere who had come to do honour to their profession—he thought their pleasure would be very great. A great Archbishop once said : "There is a time when the truth should be told : let us praise ourselves." He (the speaker) had come to praise the Royal Institute of British Architects. He ventured to hope that the Institute would go forward in the great work it had started. They had laid the foundations in America at least of that tradition of practice which made for equity between man and man. Upon the Statute of the Practice and Charges of American Architects had appeared for twenty-five years the scale adopted by the Royal Institute of British Architects, and that American architects had followed. To the Institute they looked, and he begged them to go forward in their great work—work of which they had seen ample evidence in England. Might the future bear out the promise of the past !

Mr. Belcher, in reply, said it was gratifying to the Institute to know that the Congress had been successful, and that all had derived some pleasure by their visit to London. This was mainly due to Mr. Locke (the Secretary) and the staff of the Institute. As to the Institute, it might interest visitors to know that they showed in a practical way their union with their brother architects of every country, by nominating as recipient of the Royal Gold Medal, which the King annually bestows, upon an architect of eminence or one who has furthered the art, irrespective of nationality. They also showed their close relation with the profession everywhere in that they had over sixty honorary corresponding members —men of great eminence in their respective countries, of whose association the Institute was justly proud. They might further claim to be a great fraternity, enjoying the same privileges, possessing the same treasures, with hearts filled with the same joy and pride as they contemplated the *chefs-d'œuvre* scattered over the world. They might speak different languages, but architecture was a language which every man could read in his own tongue. There were many of these works which they all admired that they must endeavour to protect for the benefit of posterity. He wished to thank them on his own behalf for the consideration and kindness which had been extended to him during the Congress, as well as for all the kind remarks made. It had been a great pleasure to him to preside on this memorable occasion and to find himself surrounded by such distinguished delegates and brother architects, and he should cherish the memory of the honour. He could truly say, on behalf of every British architect, whether members of the Institute or the Allied Societies or others, that their hearts had gone out to their visitors. The ties of brotherhood had been strengthened by the visit, and though they now had to part they were constrained to say *Au revoir*.

Final Meeting of the International Permanent Committee.

The International Permanent Committee held a final meeting in the rooms of the Institute on Saturday morning, the 21st. The two Chairmen were Messrs. H. Daumet (France) and John Belcher (England). Among the questions before the Meeting was that of the place and date of the next Congress. It was finally resolved to hold the Congress in Vienna in the year 1908.

SUBJECTS DISCUSSED AND RESOLUTIONS PASSED BY THE CONGRESS.*

SUBJECT I.—THE EXECUTION OF IMPORTANT GOVERNMENT AND MUNICIPAL ARCHITECTURAL WORK BY SALARIED OFFICIALS.

Tuesday, 17th July.—Institute Meeting Room.

Chairmen: Señor E. M. Repullés y Vargas (Spain); Mr. John Slater (England).
Hon. Secretaries: Herr Hans Peschl (Austria); Mr. Harbottle Reed (England).

1. By OTTO WAGNER (Vienna), Imperial and Royal Superintendent of Works; Professor of the Imperial and Royal Academy of Plastic Arts. (On behalf of the Society of Austrian Architects.)

[*From the German.*]

It will be convenient to give first a clear definition of the word "architect" and also some explanation of the process of development of the architect, because all the differences of opinion are more or less rooted in the wrongful acceptation of these conceptions.

With regard to the way in which the architect is developed, it must be taken into consideration that artistic capacities, such as manual proficiency, imagination, taste, individuality, and a certain gift for invention, are faculties which the architect must possess in his quality as an artist, but which cannot be learnt. On the other hand, there are a general culture and a technical and constructive knowledge, which the architect must also possess, but which can be acquired by study.

The amount of scientific knowledge to be acquired by the architect has reached such vast proportions that it has to be divided into parts, consequently into branches of knowledge. For this reason alone it is not possible for the young man who wants to become an architect to acquire full knowledge of all these special branches, since the time at his disposal, and the intellectual receptivity of the individual, are limited.

The architect, during the whole of his professional activity, will cultivate first of all the region of art, which nowadays even in literature has become of a very wide range. But as at the same time he is expected to have full knowledge of all technical innovations, his technical and scientific education should extend so far that he will be able to understand the essence of the sciences and their progress, and that this understanding will enable him in his practical work to put the results of human progress at the service of art.

His technical education must, moreover, enable him to choose the proper methods of construction and the most convenient materials to be employed. Nay more, his knowledge, aided by his inborn inventiveness, must enable him to combine new forms of construction, or to vary existing ones so that they shall answer fully the purposes for which they are required. From this it follows that the practical work and experience which the architect gains in the course of his career must be based upon a sufficiently wide knowledge.

Only after having acquired a complete technical education, can the question be decided whether the aspirant to the profession of an architect possesses those inborn qualities from which may be anticipated success in following this career.

There is, therefore, a sharply marked limit in the course of education of the architect. This limit, as already said, lies naturally between the acquired complete technical education and the entering into an academy of plastic art.

It is the duty of the academy, or rather of the professors teaching in such an institution, to examine and to decide whether or not the student possesses the inborn faculties enumerated above.

It cannot be too strongly recommended to such professors to use the utmost severity in this examination, because the result of it will have a great influence upon the general artistic standard of the profession, and because it is only by this method that that class of pseudo-architects who in our days intrude on the profession, to the discredit of art as well as artists, can be made to disappear from the scene.

We take the liberty to advise those civilised States, the schools of which make it possible to every student who has gone through the technical studies to choose the profession of an architect, even if he has absolutely no artistic aptitude for it, to discontinue this practice.

We wish particularly to point out that for architects there can be only one school—viz. an academy of the plastic art; an academy for this reason, that art cannot be taught, and consequently cannot be admitted as a scientific subject in any course of studies, and because artistic education only consists in this, that the master shows to the art pupil the right way to perfection, and encourages him by his own activity to enter on this path.

It is, therefore, absolutely wrong for technical high schools and schools for artistic trades to admit in their plan of studies the tuition of architecture, because, owing to the students not being tested as to their aptitude for the profession, an absolutely inferior standard of architecture is created.

From what has been said so far it follows that the architect is an artist with a scientific education.

By the studies of technical matters successfully gone through by the pupil, and with the academical apprenticeship, the requirements for the architect are not yet, however, exhausted. The student is still lacking practical activity, and the experience which results from it.

If the apprenticeship of the architect is an exceedingly long one, it will certainly be very considerably extended by the period he is acquiring practical knowledge in an architect's office.

In this section of the apprenticeship of an architect (his apprenticeship really ends only with his death), he stands once more at the parting of the ways in the progress of his education: that is to say, which way do

* Most of the Papers which follow are in abstract only; the full Papers, with the discussions, will appear in the *Compte Rendu* of the Congress.

his capacities lie? Circumstances, &c., lead him to the point either to accept the struggle for existence, or to enter into the safe haven of a salaried position. Here his artistic capacity plays the main part, because the greater it is, the more easily will he be able to refuse the enticing bonds of a fixed position, unless it be a professorship.

The curriculum of education of the architect so far sketched is the normal one, but we would remark at once at this stage that it is certainly not the only one, and that there will be sufficiently numerous cases in which the inborn capacities of the architect, in other words his talents, are so great that a lack of scientific education is hardly of any importance.

This fact, as well as that other, that there is no limit of talent either in more or in less—further, the fact, which it is impossible to dispute, that the first architects in the world in a great many cases are not agreed on the question as to what constitutes an architect—give the certain proof that the title of Architect cannot be protected by letters patent, and that a judgment of artistic qualities is possible only by the artists themselves, consequently by the grouping of the artists among themselves.

In the latter circumstance we find also the proof that municipal and State administrations are not even in a position to make the proper choice of an artist to fill an office.

Still another important factor comes into consideration for making such a choice. The architect appointed to an office will, while occupying it, certainly not play the leading part. His individuality, his taste, &c., must therefore subordinate themselves to the same qualities in his superior, or even of more than one superior. The works carried out under the supervision of the office would therefore not show the capacities, the taste, and individuality of the creating artist, but certainly the less valuable ones of his superiors, and as such superiors in most cases are laymen in questions of art, and often even in technical matters, it will be hardly necessary to give any more reasons why from such a combination no good can come.

It must also be mentioned that the artistic gifts of an artist oppressed by the yoke of office can never undergo the absolutely necessary development. These considerations prove sufficiently that a municipal or a State administration is never in a position to obtain the services of first-class artists as salaried officials.

But municipal and State administrations have certainly the sacred duty of cultivating the fine arts, which means with regard to architecture that the buildings erected by them should exercise the effect of models. But buildings of such a description can only be expected from great artists, and not from officials of an inferior artistic capacity.

For the same reasons the competence of the officials must only extend to the practical, technical, and economical, but never to the artistic control of buildings in the course of construction. If, finally, it is taken into consideration that, by the awakening which took place in the region of art, a lively controversy raged everywhere, and that even to this day public opinion has hardly returned to calmness, and therefore is not in a position to judge with unbiassed artistic feeling works of art, such a large number of reasons has been put forward that the correct answer to Question I. becomes easy; it can only be this:

Important municipal and Government buildings can only be constructed by eminent artists, and not by salaried officials.

The considerations alleged up to now will facilitate considerably other questions before the Congress.

2. By Oscar Simon. (On behalf of the Central Society of Architecture of Belgium.)

[*From the French.*]

The Central Society of Architecture of Belgium is of opinion that no advantage can result from the execution of public buildings by salaried officials (surveyors, &c.),

Neither for the administration, which protects its agent and takes upon itself the civil responsibility;

Nor for the public, which pays and suffers from the imperfect arrangements of the buildings destined for its use, and the æsthetic feelings of which are too frequently hurt and painfully impressed by the permanent sight of buildings generally devoid of artistic character.

While we shall avoid entering upon personalities or trying to prejudice private interests, and having only in view the preponderance of the architectural art, and for the only aim a better future standing of the architects as a professional body, considering that these have a domain of art and its interests to defend, we hold that it is an abuse that certain officials (surveyors) should offer to private parties on the look-out for authorisation by administrations services which are prohibited by the regulations and which are a form of unlawful competition highly prejudicial to the independent architects existing only on the income from their professional art.

It is desirable that more energetic action should be taken by architects, with a view to obtain legislative powers:

1. By bringing into harmony with the modern requirements of life the rate of the out-of-date tariffs still enforced upon the architects.

(*A juridic consecration should be given to this principle:* "*To a superior talent higher fees should be allowed.*")

2. By putting a stop to persons invading the architectural domain who do not exclusively exercise the profession of an architect.

3. By the revising of the laws on building in those passages where the text, *or the interpretation given to it*, imposes on the architect obligations and responsibilities inconsistent with his mission as an artist and out of proportion to the fees which are allowed for them.

(*Apply juridically to the architect and to the contractor the common law principle:* "*To a larger profit must correspond a more extended responsibility.*")

4. The Central Society of Architecture of Belgium, in the conviction that even within a modest range the co-operation of the architect will still result in the work being carried out under advantageous conditions as to price, duration, and arrangement, without excluding an artistic character which it is always necessary to strive after, is of opinion that if it be essential that the execution of public buildings should be entrusted to private architects it is ardently to be desired that *all the work, whatever its importance may be*, of construction and arrangement of plan of buildings for the public use should be exclusively given to practitioners of the architectural art.

In this there are considerations of corporative, economic, educational, and artistic interest, towards which the public officials must not remain indifferent.

To our corporation are due the normal consecration of public teaching of art, a professional encouragement, and an official recognition of the rights and prerogatives legitimately given to our profession.

Moved by a feeling of professional solidarity, *the Seventh International Congress of Architects, meeting in London in* 1906,

Wishing to affirm with all its power the claims and

just aspirations of the architects, with a view to an improvement of the economic conditions of their existence,

Formulates the Resolution:

That in future the administrations of States, departments or provinces, municipalities or communes, as well as the administrations of benevolent institutions which may be founded by the former, shall give instructions for professional architects to be appointed by way of public or limited competitions, or whose special capacities or notoriety shall be universally recognised, for the projects of works or buildings to be carried out within their jurisdiction;

That an absolute prohibition shall put an end to the interference of agents paid by the public administrations, that they shall obtain through private persons an authorisation which can only be granted by public authorities;

That within the limits of their influence in the Legislative Assemblies our representatives shall take the initiative to bring about the reform of the laws in force in such cases where the obligations and responsibilities imposed on the architect are incompatible with his mission as an artist and in disproportion to the emoluments attached thereto.

3. By Gaston Trélat (Paris).

[From the French.]

Summary.—Recapitulating, the buildings we may have to erect or to rearrange answer the requirements of the moment or of the future. What is required is knowledge and experience.

Teaching is not sufficient to develop the necessary capacity. Something more is demanded than a cramming of characteristic facts acquired by instruction. The latter must be completed by a personal training in the profession. It is to be recommended that the latter be not started too late and that the simultaneity of the two operations be secured. The intellectual and the technical education combined generally carries with it a considerable widening of ideas. It may be infinite; not seldom even it lasts as long as life itself. There exists something like a stimulus to acquire new knowledge, the want of which is accentuated in intensity by the existence of personal ideas. But, above all, it is the true source of the original points of view as opposed to the knowledge acquired by study.

In the exercises offered by the workshop, the laboratory, or by that other vast workshop which is the nation, education is ever active and imparts a particular course to the mind. Then it is that the capacity for *hypothesis* and for *the ideal* asserts itself in matters of *science* and in matters of *art*. And is it not correct to say that they are a basis of operation for the study and the solution of the requirements of to-morrow; that they are even the only agents to prepare the realities in relation with the new wants? In the workshop as in the laboratory, where the master always respects, when occasion allows, the point of view which guides the student, this education is accomplished and completed. It takes unexpected and infinite shapes which the personal values alone are able to measure.

These considerations would thus lead us to express the wish that, in art as well as in science, the same method should be put into operation from the intellectual point of view. The work in the laboratory and in the workshop would bring into evidence the variety of the points of view of the different minds. But, taking of course into account the vastness which science has reached at the present time, it is the individual and characteristic mode of action of the apprenticeship in the past that should lead us at the present.

In our times, after Claude Bernard, after Pasteur, to mention only two names borrowed from the nationality which I represent, *art* and *science* in the end get so near to each other that they appear to be very intimately related. In fact, from the circumstance of imaginative aptitudes which equally represent *the ideal* and *hypothesis*, it would seem that we should endeavour to make them one—at least in the aptitudes for initiative which open an unexplored field for new undertakings. The fact remains that *art* and *science* are in our days considerably nearer each other than they were in the past. They are two leading branches of human activity, each having no longer any right to remain indifferent towards the other.

Conclusion.—The question of public buildings gives rise to a great many questions which interest our societies. This is one of the general features of the mission inherent to the architect. He must therefore keep in touch with the time and constantly interrogate it about the requirements it may manifest to him.

Science and art enable a selection to be made of remarkable solutions. The consequence is a knowledge and experience which the different modes signalled will call forth. It is useful to propagate their habit.

Resolution of the Congress.

The subject was discussed by Mr. G. Oakley Totten, jun. (United States), Professor V. Nagy (Hungary), Messrs. F. E. P. Edwards (Bradford), A. W. Weissman (Holland), A. B. Plummer (Newcastle-on-Tyne), G. H. Fellowes Prynne, Maurice B. Adams, Jules de Berczik (Hungary), J. M. Poupinel (France), W. E. Riley, W. J. H. Leverton, Bodo Ebhardt (Germany), Ewen Harper (Birmingham), and W. M. Fawcett (Cambridge). A resolution moved by M. J. M. Poupinel (France), and seconded by Mr. A. B. Plummer (Newcastle-on-Tyne), was adopted as follows:—

That in the future and in the interest of administrative bodies and the public, and in the higher interest of the art of architecture, public bodies (whether Governmental, provincial, or municipal) should entrust important architectural works only to professionally qualified architects, either by competition or otherwise.

Subject II.—ARCHITECTURAL COPYRIGHT AND THE OWNERSHIP OF DRAWINGS.

Wednesday and Thursday, 18th and 19th July.—Institute Meeting Room.

Chairmen: M. H. P. Nénot (France); Mr. W. S. Eames (United States).
Hon. Secretaries: Señor Oriosto y Velada (Spain); Mr. Walter Read (Transvaal).

1. *The Ownership of Architects' Drawings.*

By H. Heathcote Statham.

The question is distinct from that of architectural copyright in designs, with which it must not be confounded. It turns on the question whether the drawings and specification made by the architect in order to carry out a building are to be retained in his custody or to be handed over to his client. In France and Germany no legal question is raised on the subject: the architect retains the drawings as a matter of law. In England the custom has been almost universal in the same sense. But in the case of *Ebdy* v. *M'Gowan* (1870), the Court ruled that, the building not having been carried out, the drawings must be handed over to the client on his paying for the time expended on them. In the case of *Gibbon* v. *Pease* (1904), the Court, to the surprise of architects, ruled that the precedent of *Ebdy* v. *M'Gowan* covered all cases, whether the building had been carried out or not, and that the client had a right to demand all the drawings, the Court refusing to hear any evidence on the side of the architect, whose drawings and specification can therefore, in England, be legally claimed by the client, although he already has what he really paid for—viz. the building itself. It is pointed out that an architect is not paid for making drawings, but for producing a building, the drawings being only his necessary instructions to the workmen; under some circumstances he might even dispense with drawings altogether. To require him to hand over to the client drawings and specification, which represent the result of his professional experience over many years, for the client to use as he pleases, is a manifest injustice to the architect. Moreover, the custom in the profession of handing over the drawings to the client when the building has been planned, but *not* carried out, is a mistake on the part of the profession; as in such a case an unscrupulous client has only to say that he has changed his mind in order to get possession of the drawings and use them as he pleases, with no further compensation to the architect. The wording of Clause I. of the Institute Scale of Charges is most unfortunate, as it appears to state (though not so intended) that the architect's commission is for producing drawings of a building. The wording of this clause should be amended. The author moves the following resolution:—

> "That, in the opinion of this meeting, the Royal Institute of British Architects, having revised the wording of its paper on the Professional Practice as to the Charges of Architects in the sense indicated above, should as early as possible take steps to get a Bill introduced into Parliament for securing the adoption of their scale of charges, so amended, as part of the law of the land."

2. *Artistic Copyright.*

By D. Pablo Salvat.

[*From the French.*]

1. Architectural property ought to be recognised and enjoy identical rights with those of intellectual property in general.

2. Each country ought to fix, as far as it is concerned, the limit of duration of copyright; but in no case ought this limit to be less than twenty-five years, counting from the death of the author.

3. In no case ought the design—that is to say, the idea expressed in terms of architectural art—to be reproduced without the author's consent.

4. The architectural work ought never to be reproduced either in its whole or in any one of its details, no matter for what constructional purpose, without the author's consent.

5. The architectural work may be reproduced in sculpture, drawing, painting, photography, or engraving, provided the author has not expressly and publicly signified his absolute prohibition.

6. The right of ownership is inherent in artistic work. It is constituted *de facto*, without need of registration or deposition of any kind. For copyright to be guaranteed signature and date should be sufficient.

7. Assignments of copyright should be made in the same form as assignments of personal property at the will of the contracting parties.

8. The author should specify in the assignment the points as to which he reserves copyright.

9. Any contract without restrictions implies an assignment also without restrictions.

10. Assignment without restrictions does not deprive the author of the power to reproduce his own works, but the assignee can, by an express condition, demand the right to oppose it.

3. By Gaston Trélat (Paris).

[*From the French.*]

Summary.—In conclusion I do not believe that there exists an artistic property besides the possession of the objects themselves, which is exactly the case as regards the property of architectural drawings. In the matter of art, in the matter of architectural elaborations, there is no *artistic property*. We have seen that the question was of a nature to interest the question of *morale*, inasmuch as it regulates our personal actions towards others. But the *right* which is connected with other people's actions in relation to ourselves must not interfere in the matter.

In architecture the proportions of a piece of land, the building site, the surroundings, are all elements which must be taken into consideration in making the studies for the composition of the plan. The mind of the artist is haunted by too many equally decisive ideas in the orientation of his work that any other mind could grasp the leading idea of his conception. The arrangements and the co-ordinations are all connected with it. It is a law from which the artist will never be able to free himself under the penalty of turning out bad work, and consequently of injuring his own personality.

Conclusion.—*Artistic property*, as far as I have been able to understand it, does not rest upon a sufficient examination of the question; it could not support a conscientious and logical analysis. The result of it is therefore, in my opinion, an action without profit and a regrettable loss of time.

4. *De la Propriété des Œuvres d'Architecture.*

Rapport de M. Georges Harmand.

[*Received too late for translation.*]

Le droit de propriété artistique est pour l'artiste plus particulièrement le droit de reproduire l'œuvre qu'il a conçue et de la rendre publique. A ce droit qui est l'un des principaux éléments du droit de propriété artistique, s'ajoutent différents autres droits, comme le droit de décider si l'œuvre sera publiée en entier ou en partie, à quelle époque et aussi moyennant quelle rémunération l'auteur en autorisera la reproduction par des tiers.

Enfin, l'auteur a seul le droit de décider quelles modifications, corrections ou remaniements peut subir l'œuvre dont il est l'auteur.

L'auteur a le droit aussi de décider si l'œuvre qu'il a créée sera signée, et s'il la signera de son nom ou d'un pseudonyme. Personne, sans son consentement, ne peut modifier ces diverses conditions de la publication de son œuvre.

Tous ces droits dont on constate depuis un siècle l'existence n'avaient pas jusqu'à ces dernières années de sources juridiques très nettement déterminées ; en équité l'on sentait bien que toutes ces affirmations du droit de l'auteur étaient judicieuses, la vraie raison juridique n'a été déterminée que lorsqu'on a dégagé ce que l'on appelle "le Droit Moral."

Le Droit Moral de l'auteur repose sur la responsabilité qu'il prend, ayant créé l'œuvre, de s'en affirmer l'auteur : en échange, il s'expose autant aux critiques des autres artistes, ses pairs, et du public qu'à leurs éloges.

Le corollaire de cette responsabilité et de cette affirmation de créateur est que, seul, il a le droit de signer l'œuvre, et que personne ne peut porter atteinte à sa signature, pas plus qu'à l'œuvre.

A plus forte raison, a-t-il seul droit aux honoraires ou rémunérations que les tiers peuvent donner pour jouir de l'œuvre ou en obtenir des reproductions.

Ces principes sont communs à tous les artistes, aux dessinateurs, aux peintres et aux sculpteurs.

Ceux-ci jouissent depuis longtemps de l'exercice de leurs droits d'auteur d'une manière infiniment étendue.

Il importe essentiellement aux architectes de bien se persuader qu'ils ne demandent que ce dont jouissent déjà les peintres, sculpteurs ou dessinateurs.

Quelles seront, particulièrement pour l'architecte, les conséquences de la protection artistique ?

Les voici en quelques lignes :

Tout d'abord l'architecte manifeste ses idées dans un ensemble de dessins et de plans, coupes, élévations, détails des façades extérieures et intérieures, détails décoratifs et autres en général, ensemble que nous exprimerons à l'aide de ces mots : *les Dessins d'Architecture.*

Les dessins d'architecture constituent la première manifestation de l'idée de l'architecture, *l'original de l'œuvre.* L'architecte a droit de signer cet ensemble de dessins.

L'architecte est maître de publier, quand il lui convient, l'œuvre qu'il a tracée.

Il a droit de la reproduire par les procédés qu'il lui convient de choisir, et de la manière qu'il l'entend.

L'exécution de dessins d'architecture sous la forme d'un édifice élevé sur le terrain est un des modes de reproduction des dessins d'architecture.

Nul ne peut reproduire l'œuvre sans l'assentiment de l'auteur.

L'architecte est maître de déterminer les honoraires qu'il lui convient de fixer, pour consentir à la reproduction de son œuvre.

Sauf stipulation contraire, l'architecte, en donnant son consentement, ne concède le droit que pour une seule reproduction de son œuvre.

Nul ne peut apporter, sans l'assentiment de l'auteur, des corrections, modifications ou remaniements à l'œuvre originale ou aux reproductions consenties par l'auteur.

Il est presque constant que les législations, qui ont organisé la propriété littéraire ou artistique, concèdent pour un temps déterminé, qui le plus souvent comprend la vie de l'auteur et une période de 30, 50 ou 80 ans après sa mort, le monopole de propriété artistique.

Pendant la durée de cette période, l'auteur, puis après lui ses héritiers ou ses cessionnaires, ont seuls le droit de publier, de reproduire l'œuvre.

En examinant attentivement les éléments du Droit Moral, on a vite constaté que les héritiers n'avaient pas absolument autant de droits que l'auteur sur l'œuvre.

Les héritiers ne peuvent détruire l'œuvre, ou la modifier dans des conditions inesthétiques. Ils ne pourraient pas non plus se refuser systématiquement à admettre que l'œuvre a été produite par l'auteur.

Convention Internationale de Berne.

Une Convention internationale, signée à Berne en 1886, unit pour la protection de la propriété artistique un nombre considérable des états du globe : ce sont l'Allemagne ; la Belgique ; le Danemark ; l'Espagne ; la France, l'Algérie et les colonies ; la Grande-Bretagne, avec ses colonies et possessions ; Haïti ; l'Italie ; le Japon ; le Luxembourg ; Monaco ; Monténégro ; la Norvège ; la Suède ; la Suisse ; la Tunisie.

L'Union internationale produira un jour ce résultat admirable d'une unification des législations sur la propriété artistique.

Vœu.

Le VII^e^ Congrès International des Architectes, réuni à Londres en 1906 :

Rappelant, d'une part, les vœux émis depuis vingt-huit ans dans les Congrès Internationaux des Architectes et de la Propriété Artistique, ainsi que dans les Congrès Internationaux de l'Association Littéraire et Artistique Internationale, et notamment à Madrid en 1904 ; et rappelant d'autre part le Protocole de clôture de la Conférence diplomatique tenue à Paris en 1896, lequel consacre le principe de la protection complète des œuvres d'Architecture,

Rappelant enfin la loi espagnole de 1879 et la loi française de 1902, lesquelles protègent expressément les œuvres d'architecture,

Est d'avis :

1°. Que les dessins d'architecture comprennent les dessins des façades extérieures et intérieures, les plans, coupe et élévation, et constituent la première manifestation de la pensée de l'architecte et l'œuvre d'architecture ;

2°. Que l'édifice n'est qu'une reproduction, sur le terrain, des dessins d'architecture ;

Et renouvelle le vœu que les œuvres d'architecture soient protégées dans toutes les législations et dans toutes les conventions internationales, à l'égal de toutes les autres œuvres artistiques.

Resolutions of the Congress.

(*a*) The Ownership of Architects' Drawings.

After the reading of Mr. Statham's Paper the Chairman ruled, in deference to the opinion of a majority of the Meeting, that the question of the ownership of architects' drawings should be treated as distinct from that of artistic copyright, and that the two questions should be discussed and voted upon separately.

Mr. Statham's resolution, as set out on page xxiv, having been seconded by Mr. E. W. Hudson, was eventually withdrawn, together with an amendment by Mr. G. A. T. Middleton, seconded by Mr. A. N. Prentice, in favour of the following moved by Mr. A. H. Kersey, seconded by Mr. W. H. Atkin-Berry, and adopted by the Meeting—viz.—

That this Congress is of opinion that the architect is employed to produce a building, and that all drawings and papers prepared by him to that end are undoubtedly his property.

Besides the movers and seconders above mentioned, the discussion was contributed to by M. Harmand (France), Dr. H. Muthesius (Germany), Mr. Walter Read (Transvaal), and Mr. E. W. Fritchley (India).

(*b*) Artistic Copyright.

The subject was discussed by MM. Pablo Salvat (Spain) and Georges Harmand (France), and on the motion of the latter, seconded by Mr. A. H. Kersey, the Meeting resolved that—

This Seventh International Congress of Architects assembled at London in 1906, Recalling on the one hand the resolutions passed during the past twenty-eight years by the International Congress of Architects and the International Congress of Artistic Copyright, as well as by the International Congresses of the Association Littéraire et Artistique Internationale, notably at Madrid in 1904; Recalling, on the other hand, the "Protocole de Clôture" of the Diplomatic Conference held at Paris in 1896, which upholds the principle of complete protection of works of architecture; Recalling, finally, the Spanish law of 1879 and the French law of 1902, both of which expressly protect works of architecture:

This Congress is of opinion:

1. *That architectural designs comprise designs of façades, exterior and interior, together with the plans, sections, and elevations, and they constitute the first manifestation of the architect's idea and the work of architecture.*
2. *That the building is but a reproduction, on the site, of the architectural drawings.*

And this Congress renews the resolution that works of architecture be protected in all legislative enactments and in all international conventions equally with every other kind of artistic work.

Subject III.—STEEL AND REINFORCED-CONCRETE CONSTRUCTION.

(*a*) The General Aspect of the Subject.
(*b*) With Special Reference to Æsthetic and Hygienic Considerations in the Case of very High Buildings.

Chairmen: Messrs. Frank Miles Day (United States) and J. J. Caluwaers (Belgium).
Hon. Secretaries: Messrs. Rapisarda-Rizzo (Italy) and F. N. Jackson (England).

1. By the Joint Reinforced Concrete Committee.

The great and increasing use of reinforced concrete in buildings and other structures, and the need of having some authoritative pronouncement on the proper conditions of its use, have led the Royal Institute of British Architects, with the co-operation of other bodies, to appoint a Committee to enquire into the subject.

The Members of the Committee are as follows:

Nominated by the Royal Institute of British Architects.—Sir Henry Tanner, H.M. Office of Works; Professor W. C. Unwin, LL.D., F.R.S.; Charles F. Marsh, M.Inst.C.E.; A. T. Walmisley, M.Inst.C.E.; Max Clarke, F.R.I.B.A.; William Dunn, F.R.I.B.A.; H. D. Searles-Wood, F.R.I.B.A.; Colonel F. Winn, late R.E.

Nominated by the War Office.—Colonel C. B. Mayne, R.E., Assist. Director of Fortifications and Works, War Office; Major E. M. Paul, R.E., Assoc.Inst.C.E., Instructor in Construction, School of Military Engineering, Chatham.

Nominated by the Incorporated Association of Municipal and County Engineers.—A. E. Collins, M.Inst.C.E.; J. W. Cockrill, M.Inst.C.E.

Nominated by the District Surveyors' Association.—E. Dru Drury, F.R.I.B.A.; T. H. Watson, F.R.I.B.A.

Nominated by the Institute of Builders.—Benjamin I. Greenwood; Frank May, J.P.

The Committee has appointed Sir Henry Tanner as Chairman, Professor Unwin and Col. Mayne as Vice-Chairmen, and Mr. H. D. Searles-Wood as Hon. Secretary.

It has appeared desirable to the Royal Institute that some statement be made before the International Congress of Architects in London as to the general scope and aim of the Committee, and the following outline is made with their approval:

The aim of the Committee's deliberations is to prepare a report, stating their recommendations and conclusions as to:

1. What drawings and details should be prepared before work is commenced.
2. The nature of the materials which may be employed, and the standards to which these should comply; *i.e.*
   (*a*) The metal in reinforcement.
   (*b*) The matrix.
   (*c*) The sand.
   (*d*) The gravel, stone, clinker, or other aggregate.
   (*e*) Water.
3. What are the proportions for concrete to be used in different cases.
4. How the ingredients for concrete are to be mixed and deposited on the work.
5. The distances to be allowed between the reinforcing bars and what covering of concrete is necessary.
6. What precautions are necessary in the design and erection of centering and false work, and how long the

whole or portions of centering and false work should remain in position.

7. The rules which should be used in determining the dimensions of the several parts necessary for security, and what safe stresses should be allowed.

8. The supervision necessary and the special matters to which it should be directed.

9. The fire-resisting properties of reinforced concrete.

10. Its adaptability for structures where resistance to liquid pressure is essential, and what special precautions may be advisable under these conditions.

11. What are the necessary conditions for its permanence; resistance to rusting of metal, disintegration of concrete or effects of vibration.

12. The testing of the materials employed and of the finished structures.

13. What provisions are desirable in Building Laws or Government regulations relating to buildings and other structures, so far as these affect the use of reinforced concrete.

The Committee having been recently constituted, and only two meetings having been held, no conclusions have been arrived at, and members of the Congress are invited to send communications, either the results of experiments or other information or suggestions that may be of use.

2. *Ferro-Concrete Construction.*

By Henry Adams, M.Inst.C.E.

So much has been written during the last four or five years upon the use of concrete and steel in combination that there is practically nothing new to be said. Those who have studied the literature of the subject will probably have been struck with the number of different terms used to express this mode of construction. "Béton armé," and the English equivalent, "armoured concrete," are perhaps the least appropriate. "Reinforced concrete" gives undue prominence to one element to the total exclusion of the other; "concrete-steel" is less open to objection, but the writer prefers the term "ferro-concrete" as being self-explanatory of the intimate combination between the two materials, the more important one coming first. A superficial criticism might allege that *ferrum* is iron, and therefore not applicable to steel, but steel is generically iron, and the term is therefore quite appropriate.

In early designs no provision whatever was made to resist the shearing stresses, which were either overlooked or ignored, and it is interesting to observe the gradual recognition these stresses obtained in the hands of the designers, until in recent construction they receive nearly as much consideration as what are called the "direct" stresses of tension and compression. The importance of considering shear was brought prominently under notice by the failure of experimental beams which had no special provision for meeting the shear stress towards the ends, where of course it is greatest. Various methods are employed in the different systems, but the Kahn trussed bar seems peculiarly suitable, the fin on either side of the core being left attached throughout the middle portion where the tension is greatest, and separated and bent upwards towards the ends to take the shear where the tension is least.

The question of adhesion between the concrete and the steel at one time caused some anxiety. It was naturally supposed that with increase of temperature the steel would expand more than the concrete, and it was thought that this would be sufficient to impair, if not to destroy, any adhesion that might be otherwise obtainable. As a matter of fact the linear change for a given variation of temperature is about 15 per cent. less for concrete than for steel, but when the actual figures are compared the difference is very trifling. Taking the range of temperature between summer and winter as seventy degrees Fahrenheit, the change of length in 100 feet produced by this variation of temperature will be for steel 0·546 inch and for concrete 0·464 inch, the difference between the two materials in a length of one foot being less than a thousandth of an inch.

With equal care in mixing the concrete the adhesion varies with the condition of the surface of the steel. When coated with red oxide paint it is extremely slight, and even a bituminous paint reduces the adhesion below that due to a clean unprepared surface. It is, however, found that the best adhesion occurs when the steel is rusted all over before being embedded in the concrete. This appears to be due to the formation of some chemical compound, or salt of iron and lime, which may not be detrimental in the absence of further moisture, but the final result is doubtful in such cases as reservoir walls, tanks, and dams. Painting the steelwork over with cement wash is a simple method of commencing the contact, and this would seem to prevent further rusting, on the principle of the pail of limewater into which the Sheffield grinders dip their small-goods to resist the tendency to rust when left wet.

Professor Bauschinger found the ultimate adhesion to be from 569 to 668 lb. per square inch, but Mr. J. S. Costigan found it not to exceed 65 lb. per square inch. Probably in the former case it was measured by the resistance of a rod to withdrawal, and in the latter by the insertion of small plates in a briquette. At any rate it is not safe to reckon upon more than 50 lb. per square inch as a working load for adhesion. Allowing 16,000 lb. per square inch as the working load on steel, the embedded length that would make the strength and adhesion equal would be 16,000 times the sectional area of steel in square inches divided by fifty times the surface area per inch in length, or briefly 320 $a \div s$; so that a quarter-inch square bar embedded for a length of twenty inches would be equally strong against tearing or slipping, and similarly a one-inch square bar would need to be embedded for a length of eighty inches. There are many different constructions in which this fact may be of importance; for instance, in a simple beam, if the span is less than twice the above lengths, there will be a tendency for the rod to draw before the tensile strength is utilised, unless the ends are turned up to form cleats. In the edge of a circular ferro-concrete tank, instead of overlapping the ends of the rods, for which the above distance would be a minimum, it would clearly be more economical to turn up the ends and slip a welded link over them. There are several specially prepared bars giving greater resistance to withdrawal, *e.g.* the Ransome twisted bar, the square corrugated bar, and the Columbian bar, which relies for efficiency upon its large surface area compared with its sectional area, but plain rods which can be obtained everywhere should be adopted whenever possible, on the score of economy and avoidance of delay.

Ferro-concrete does not at first sight lend itself readily to architectural effect; the warehouses and coal stores constructed of it can hardly be called visions of beauty, but some of the recent arched bridges have a decidedly pleasing effect, and when the adaptability of the compound material becomes better known we may confidently look forward to the expression of taste as well as utility in the designs.

Perhaps the greatest departure from existing models occurs in the construction of ferro-concrete retaining walls. Hitherto we have looked upon weight as the essential element of such walls, and stability has been

secured by leaning this weight against the bank of earth to be supported. We are now confronted with a new type in which added weight bears no part; the only weight employed is that of the earth itself. The construction consists of a skin of concrete reinforced with steel rods, securely and continuously attached to a similar base and forming with it two sides of a triangle. The face wall is then kept in position by rods protected by concrete, tying the inner edge of the base at intervals to the face at one or more points of the height. It does not follow that because the centre of effort of the thrust occurs at one-third of the height that that is the proper place for the connection to be made; it would be if the wall were disconnected at the bottom, but being firmly secured there the point of attachment should certainly be higher than one-third. If the stiffness throughout the height be uniform the point of attachment should be about 58 per cent. of the height. There are some other rather nice points of calculation about these walls which the writer does not propose to go into now; he would only point out that, apart from strength, the stability is obtained by the weight of earth resting on the base. Other examples of these walls have reinforced counterforts six to nine inches thick extending to the whole height at intervals of eight to ten feet, in the length, and others again have reinforced buttresses at similar intervals, and in one case the writer has seen the base of the wall extended in the front instead of at the back, so as to react by pressure at a considerable leverage, but this method does not appear to be so economical as that previously described.

There are, no doubt, many other uses to which ferro-concrete systems may be applied. Englishmen are naturally conservative; they like to feel that in their adoption of any new system they are not running too great a risk, and a novel form of construction such as this must undoubtedly have some failures, but, paraphrasing the old saying, the writer would urge that "nothing succeeds like failure." It is from failures that the greatest knowledge of true principles can be obtained, and therefore we should be grateful to those pioneers who do venture to take risk, even at the sacrifice of some reputation.

3. *Reinforced Concrete and Fire Protection.*

By E. P. Goodrich, M.Am.Soc.C.E.

In choosing the subject of "Reinforced Concrete and its Relation to Fire Protection" the writer had in mind the dual conditions necessary to the greatest immunity from fire in large building constructions, particularly where such has varied types of occupancy, together with correspondingly different manufacturing fire hazards.

The requisites are, first, the employment of the most incombustible materials and the assembling of these elements in such manner as will most effectively limit the spread of fire; secondly, the equipment of the building with such protective and extinguishing apparatus as a wide experience has determined most effective. Either of these essentials alone will accomplish a large measure of results, but to secure a maximum the combination is necessary.

An exemplification of such a combination is the tenant factory community being developed by the Bush Terminal Company of Brooklyn, N.Y., U.S.A., for which reinforced concrete has been adopted as the structural part of all buildings. These factories were especially designed to take advantage of all insurance regulations, and thus secure the minimum insurance rates on buildings and contents.

Associations of insurance companies in the United States have had the effect of standardising requirements. All the most important points thus developed were carefully considered in the design of the Bush Factories, which thus were provided with:

Special fire walls.
Special stair and elevator shafts.
Waterproof floors.
Automatic fire doors.
A complete sprinkler equipment.
Windows of wire glass in metal frames, &c.

The reinforced concrete design was prepared with special care as to the fire-resisting qualities of the structure. A "unit" system of reinforcement was devised, which proved effective and economical, not liable to derangement during construction, and especially advantageous because allowing of the use of special fire-resisting materials at points of greatest danger. The columns, even though built of concrete, were fireproofed with cinder concrete shells, which served at the same time as a vehicle for the steel reinforcement and as a mould for the construction of the main body of the column.

The building now completed enjoys the lowest rate of fire insurance, both as to structure and contents, accorded any similar risk.

4. By Professor Louis Cloquet. (On behalf of the Central Society of Architecture of Belgium.)

[*From the French.*]

CONSTRUCTIVE POINT OF VIEW.

The old style edifice was characterised by the separation between two distinct parts, the walls and the gable. There is a lack of solidarity between the two. At the point where the trusses of the frame rest upon the walls there is something like an articulation. The introduction of the metallic frames has not at once remedied this characteristic defect of buildings formed of stone walls and gables of wood. For a long time it was customary to combine trusses of iron similar to the wooden trusses. The solution of the problem of the large halls only made a decisive step in advance when the centred trusses were introduced, which have their starting point on the ground, like the trusses of the Dion pattern. From that moment the solidarity between the vertical and the inclined parts was secured. However, it is only the trusses which cannot be deformed. The solidarity between the vertical and the inclined parts is not realised in the enclosing surfaces. There is lack of homogeneousness between the two parts of the building—that is to say, its skeleton or frame and its wall. Logic claims a more radical solution, which would consist in establishing solidarity not only between the uprights and the trusses, but rather between the wall and the roof. This is what the use of reinforced concrete enables us to realise. The side wall may even disappear or be made one with the vault. The whole will show almost uninterrupted surfaces on the outside as well as on the inside, with the absence of the encumbering internal protrudings of the frames. The new arrangement has, therefore, as a result to save the trusses, and only to maintain a surrounding wall which supports itself without any assistance. Now experience has shown that buildings conceived on this plan do not cost more than those carried out in thick stone walls with metallic gables, and that they are solid.

If it is the question of a building with storeys the floor of reinforced concrete takes with advantage the place of the old systems. The most characteristic consequence of the use of reinforced concrete is the

suppression of the roof, as the uppermost ceiling can be used as a cover and constitute an inhabitable terrace. This kind of construction lends itself, moreover, to the boldest rakes or overhanging structures.

This system, if applied in a rational manner, is able to bring a change into the architectural forms. It simplifies the forms, it causes the cumbersome complexities of the frames and floorings to disappear, it simply carries out all the surrounding or separating surfaces. It makes disappear every distinction between the wall and the roof. It introduces an architecture consisting of so elastic surrounding walls that these can be given any dimensions required, according to the space it is useful to enclose. The habitations will take the shapes of parallelopipedics terminated by terraces, and the large buildings with curved vaults with visible estrades. We must be prepared to see sculptures and moulded relief work disappear and coloured ornaments to prevail. A radical change in the internal and external forms of the buildings will be the consequence of the substitution of a concrete solid, homogeneous structure for our former architectonic organism. All the forms proper for a combination of marked out stones and covered over with plaster, which will henceforth no longer be used, would here be devoid of expression and æsthetic value. They must be given up and other methods must be found.

THE ÆSTHETIC POINT OF VIEW.

We have in mind three kinds of form: those of *convenience*, those of *structure*, and those of *expression*.

The forms of convenience, by which the building receives its complete usefulness and a character in harmony with its destination, satisfies the mind without causing pleasure to the eye. Those forms of convenience which are, if not the most pleasing, at least the most excellent can be carried out to perfection by making use of the processes, so eminently practical, of reinforced concrete.

The forms of expression are those by which the architect and his assistants put their imagination and their soul into the building, in order to impart to it the eloquence of a pleasant aspect. The ideal is that they shall form an integral and inseparable part of the structures. In the buildings constructed of reinforced concrete there is little scope for the artist's talent, especially the sculptor's. There remains hardly anything except the superficial decoration by painting and some polychromic, ceramic, or other adornments, but for the artists in colour a vast field is opened for their creations.

The forms of structure, either real or fictitious, are the principal ornament of the buildings produced by the old methods. They are those organic forms which give life to the aspect of buildings with walls of marked out stones.

In the old-fashioned conception a building is to be compared with a living organism where we can distinguish a skeleton, various members, and a sort of muscular system. Reinforced concrete does not afford these elements of interest and charm; it leaves the impression that the work has been carried out in too docile a material, on which the sacred labour of the workman and his traditional processes have not left the traces of the noble struggle between the artisan and matter. We do not find the same beauty in this work all cast in one block in a dead and dull-coloured material, without apparatus, without organism, with which the best thing that can be done is to hide it beneath a superficial decoration.

In conclusion the new processes, economic and powerful as they are, are precious from the point of view of certain bold and complex accomplishments. They are devoid of the charm of an artistic expression. Besides, economy is only a relative law and of a secondary character, and the boldness of the structure is not always required. A process which is prevalent from these two points of view does not impose itself to the exclusion of the others. Recourse may be had to it for the economic satisfaction of utilitarian projects, for the realisation of comfort, and for the solution of bold problems. But it will never eliminate from architectural practice the noble and artistic combinations of masonry work in marked-out stones, moulded and sculptured, of frameworks in wood and in metal, of super tructures with vaults, &c.

5. *Steel and Reinforced-Concrete Construction.*

By JOAQUIN BÀSSEGODA (Barcelona).

[*From the French.*]

Building in reinforced concrete does not solve any new problem either in art or construction; it is a composite building of stone and metallic materials by means of which, profiting by the qualities of the two components, difficulties are more economically solved than could be done with either of them alone.

Economy in the use of reinforced concrete does not depend on the low price of the materials of which it is composed, which are comparatively dear, but on their accurate combination, which allows of the quantity being reduced. Economy consequently has a limit in the maximum coefficient of ironwork and concrete.

There is no reason why these coefficients, especially that of the concrete, should be higher than in homogeneous constructions, for there are many circumstances, all difficult to foresee, which may produce lower resistances than those which have served as a basis in the calculation; such as the quality of the cement, the nature and size of the sand and gravel, and the manipulation and use of the different materials.

This consideration has produced various systems from which cement work has been almost completely eliminated, or in which, at all events, it has not been taken into consideration in the calculation; it is then considered as a simple exterior covering destined to protect the metal against agents which would tend to destroy it, such as oxidation and fire.

Security reaches its maximum in these systems, but, on the other hand, economy diminishes; it may happen that this kind of masonry may become less economical than other homogeneous kinds, such, for example, as brick laid with cement.

In countries where they have excellent brick which, according to an already old-established custom, they use in very reduced thicknesses, either in the parts which give support or in the parts which are supported (arches and horizontal floorings), one might introduce the system of fortifying these constructions, thus obtaining a greater economy in homogeneous masonry work and in fortified concrete work.

In places where construction in brick does not meet the conditions required, the use of fortified cement offers a real and effective economy over all other systems of construction; an economy which should not be exaggerated whilst admitting coefficients of work very superior to those which experience has found to be absolutely safe. One can recommend such systems in which the ironwork is adjusted to be able to resist all external force.

With regard to the artistic point of view of the question, reinforced concrete has no exclusive form; on the contrary, like every concretion, it takes that which is given to it. The supporting element, covering an empty

space, may be straight (beam) or curved (arch): the length of the former is comparatively restricted; the length of the latter can be much extended, as is also the case in homogeneous constructions.

In the straight form, as in the curved, the theoretical limit of reinforced concrete requires, on account of the weight of the concrete itself, the use of a greater volume of iron in the ironwork than is required in homogeneous metallic constructions. The relation or proportion between the units of resistance and of weight is thirteen times greater in cement than in iron. It follows that in proportion as the absolute dimensions of the works in reinforced concrete are increased, so must the importance of the iron over the cement be increased also, and in consequence the forms then have the characteristics of metallic constructions, as may be noticed in the large bridges.

On the other hand, in architectonic works, in which it is scarcely ever desired to attain the maximum of possible dimensions, the artistic character must come from the lines, projections, and coloration. With regard to the first the architect can choose freely without any restriction; the second, whatever they may be—mouldings, ornamental decorations, &c.—can also be obtained with ease and comparative economy, but with the drawback that for their execution one must have recourse to moulding, which indicates a limitation of artistic effect to which architectonic art cannot bring itself. With regard to colour one cannot admit the only one, that of cement; but, on the contrary, this modern concrete must be treated as the ancients treated it, that is to say, by covering it either altogether or in part with other materials of which the varied coloration permits of the desired effect being obtained, as certain architects and engineers are already doing who have succeeded in using fortified cement in their works with a particularly artistic effect.

6. *The Use of Burned Clay Products in the Fireproofing of Buildings in the United States of America.*

By Peter B. Wight, F.A.I.A. (Editor of *Fireproof Magazine*, Chicago, U.S.A.)

The purpose of this paper is to treat of the actual use of burned clay in building construction according to the present practice in constructing fireproof buildings in the United States.

Historically burned clay is the most ancient of building materials, and natural clays can be found almost everywhere. Kinds of clays referred to. Refractory clays most useful, and generally within the reach of all.

Natural variation in qualities of clays treated of, showing universal standards of quality cannot be maintained. Improper clays are often used, the result of ignorance and want of principle. The best can be had where the disposition is to pay for their full value.

Properties of burned fire clay described. Methods of fabrication. Porous terra cotta and semiporous terra cotta preferred. Cellular terra cotta.

Use dates from 1878, but had been used in form of brick floor arches from the introduction of I beams in 1855. Flat hollow arches invented in France by Garcin in 1868. Same used in the United States 1871 to 1878.

Inventions were numerous from 1870 to 1880 but few were practicable or brought into use. Invention of sewer-pipe press gave great impetus to manufacture. Same is still the means of cheapening product. Very few patents now in force.

Porous terra cotta first made at Chicago in 1872. First used for roofs and afterwards for protecting cast-iron stanchions at Chicago and Milwaukee. Method described. Flat arches of hollow porous terra cotta used in Patent Office, Washington. Girders and roof trusses protected with porous terra cotta at Milwaukee and Washington.

General interest in the necessity of fireproofing the iron constructive members in buildings was first elicited as a result of investigations of effect of fire on incombustible buildings in the Chicago conflagration of 1871.

Great building revival at Chicago in 1880 caused demand for fireproof structures to replace earlier buildings. High buildings were demanded and the main problem to be solved was how to build them fireproof and light enough to stand on elastic clay soil, which could only sustain 4,000 lb. to the foot. Solved by making flat floor arches very light. Foundation problem solved by first using iron rails in concrete with increased offsets. Invention of grille foundations followed. Structural steel I beams first made in 1885, and steel for columns with complete steel skeleton construction perfected in 1888. All steel in these buildings was protected by tiles of various kinds. Several methods for building floors and roofs employed.

Grill foundations on yielding soils are now superseded by concrete piers, built in tubs, down to hard pan or rock.

The first fireproof ten-story office building in Chicago, fireproofed on modern method, has already been removed to make room for a larger and more expensive structure, eighteen stories high, which embodies all the improved methods of fireproofing used at the present day.

Thin-walled hard hollow tiles have been superseded by thicker-walled hollow porous and semiporous tiles for all purposes. Machine-made material only is used. Limits of practicable thickness described.

Burned clay fireproof materials classed under two heads; one of materials used constructively under pressure, such as floor arches and all other arches and partitions; the other comprises all the forms used for the protection of the steel constructive members.

Floor construction described in detail. Flat arches formerly used on the side-pressure principle are now used on the end-pressure principle.

Protection of soffits of I beams described. Same used for all forms of arches. Segment floor arches described. Compared with flat arches. Flat terra-cotta floors with steel-tension members described. The Johnson system. The Bévier system. The Kahn system.

Hollow-tile partitions are described. Defects in former methods, and methods of setting and trimming described. Partitions take the place of brick division walls. Underwriters' laboratories at Chicago referred to. Their great strength to bear loads.

Fireproofing constructive steel members is next considered. Fireproofing iron and steel stanchions the most important. Many methods described and illustrated.

Girder protection is next described and illustrated. The Guastavino "cohesive system" of fireproofing with fireclay tiles described. Especially adapted to construction of domes; is monolithic; a laminated combination of flat tiles and concrete.

Fireproofing in the Pittsburg Terminal Warehouse described. Construction is on a similar principle to that of Guastavino.

Construction of grain-storage tanks for "elevators" with hollow tile described. The construction of the old style of elevators with wood and brick bins perfected by Geo. H. Johnson, and the modern fireproof elevator perfected by his son, E. V. Johnson.

Difficulty in covering the subject intelligently in brief time given. Statistics omitted. Modern methods have proved to be saving methods.

Conclusion.—The American system is not impracticable in any other country on account of cost. Experience, as well as fabrication in large quantities, will reduce cost. High price of labour in the United States should naturally make it more expensive there than elsewhere. Reduction in cost of transportation an important economic item. The whole subject especially pertinent to the present occasion. We are here to learn as well as to teach each other at the same time; to contribute what we know to the fund of information to be here accumulated for the benefit of our brethren throughout the world.

[*Illustrated by numerous plates.*]

7. By Gaston Trélat (Paris).

[*From the French.*]

Summary.—To sum up, steel and reinforced cement are destined to see their use become general. They are fit to be easily and conveniently used together with other materials, such as burnt clay and, above all, sandstone; and in this way can be formed a substantial body provided with solidity and of a nature to assure beauty, a quality not to be neglected.

Moreover, the walls built by this method are excellent with regard to the health of the inhabitants, in consequence of the absence of dust produced by sandstone, and as offering no harbourage to disease germs, against which an incessant war must be waged.

The advantages of this particularly healthy kind of installation are, above all, to be appreciated when it is a question of buildings to be used as hospitals or refuges or as cheap lodging-houses.

In consequence of the easy disinfection of the walls, the number of dwellings placed one above the other in buildings of great height is considerably more free from inconveniences.

Conclusion.—Steel and reinforced concrete are materials with which it is possible to erect very high buildings and at the same time to reduce the thickness of the parts, such as walls and floors. Owing to the mechanical nature of these materials they are provided with resistance to compression and to bending, which render it possible to gain useful spaces with regard to the total space covered.

From the plastic point of view they can form a body with the enamelled sandstone, forming walls which have a pleasing effect to the observing eye.

With regard to hygiene the advantages are not inferior to those which may be expected from enamels in consequence of their delicacy of tone. The enamel of the flamed sandstone allows the construction of walls which are impervious to germs. Finally it produces surroundings whose salubrity one cannot too highly extol.

Solidity, economy of space, plastic beauty, salubrity, are thus four qualities produced by the use of these materials.

8. By Augustin Rey (Paris).

M. Rey's Paper, which arrived too late for translation, deals particularly with the value of reinforced concrete as a material for the economical construction of artisans' dwellings. Overcrowding appears to be as much a vexed question with the French as it is with ourselves. Taking as a basis of calculation one room for two people, M. Rey estimates that 660,000 of the population of Paris, and over 4,000,000 for the whole of France, are insufficiently housed. Discussing remedies, M. Rey says:—

Quant aux remèdes qui incombent aux architectes dans notre état social, ils sont d'un ordre très élevé. Il faut qu'ils fassent appel de plus en plus aux procédés de construction qui tout en réduisant le prix de revient de l'habitation, réduisent ses frais d'entretien. Ces deux facteurs interviennent au même titre dans la *réduction du loyer du logement populaire.*

Après bien des études et des travaux, nous sommes arrivés dans cet ordre d'idées à préconiser l'emploi rationnel du ciment armé comme ossature pour les maisons à étages pour logements populaires.

Nous avons l'honneur de vous présenter un projet type dont les lignes générales très simples vous feront d'emblée saisir l'économie. C'est aux logements pour familles nombreuses auxquelles nous avons pensé.

Ces logements sont composés soit de quatre chambres habitables et d'une cuisine—soit de cinq chambres et d'une cuisine.

Sans décrire ces logements, dont les plans donnent les détails de dispositions, disons que ces chambres ont de 12 à 15 mètres carrés de surface et toujours 3 mètres net de hauteur—avec éclairage vertical du $\frac{1}{5}$ de la surface des planchers. Les logements de cinq chambres ont une chambre à coucher centrale pour les parents formant séparation entre la chambre des filles et celle des garçons, sans communication entre elles—et une chambre pour les petits avec large balcon pour les jeux. Une salle à manger et une cuisine. Ces logements sont pour famille de six enfants. Les logements de quatre chambres sont pour familles de quatre enfants et éventuellement cinq. La lumière et l'air sont largement répandus. Aucune cour intérieure—toutes les cours largement sont reliées aux voies publiques. La ventilation est transversale pour tous les logements. Les escaliers sont en pleine lumière et sont largement ventilés. Ils sont ainsi le prolongement tout naturel de la voie publique.

L'ossature générale en ciment armé est par poteaux supportant les planchers formant dalles, ayant sans poutres intermédiaires les surfaces des chambres. La suppression de tous les combles et leur remplacement par des terrasses en ciment avec cases formant séchoirs privés, attachés à chaque logement, constitue un perfectionnement dont l'Allemagne nous a donné l'exemple. Les murs de refend en maçonnerie séparent seuls les groupes entre eux et forment pignon contre le roulement général des bâtiments.

Au rez-de-chaussée sont disposés les services généraux communs: buanderie, séchoir d'hiver, repassage, douches, bains, et cases privées pour voitures d'enfant, bicyclettes et malles, annexés à chaque logement.

Tous les murs extérieurs sont creux, vrais murs du pauvre, les moins déperditeurs de chaleur et de fraîcheur, ou en agglomérés, face extérieure en brique recouvrant sans exception tous les poteaux en ciment armé, enduits au ciment crépi tyrolien et peints à la chaux—cloison intérieure en agglomérés de plâtre, chaux et mâchefer, scories ou autres produits similaires. Les cloisons des logements sont traitées de même. Les fenêtres montent au ras des plafonds et arrivent à 0m.150 du plancher. Elles sont calculées au $\frac{1}{5}$ de la surface des planchers des pièces qu'elles éclairent.

Suivant le type de la chambre habitable, modèle dont les parois, murs et plafonds sont exposés directement à la pleine lumière, et dont nous avons exposé les principes au Congrès International de la Tuberculose de 1905—tous les poteaux extérieurs en ciment armé sont noyés dans les placards ménagés dans chaque pièce. Les poteaux intérieurs sont revêtus aux angles de pièces d'un treillis métallique s'opposant aux fissures longitudinales.

Pour les conduits de fumée, nous en avons fait une étude spéciale. La hauteur de chaque étage habitable de plancher à plancher étant de 3m.150, soit 3m. de vide pour chaque étage, nous constituons nos conduits en poteries curabées dans une ossature extérieure en ciment armé ayant d'un seul bloc 3m.150 de hauteur. De ce fait à 0m.800 au-dessus de chaque foyer se trouve le seul joint

disposé pour être vu et visité de chaque colonne de tuyaux de fumée. Nous avons ainsi assuré l'étanchéité pour ainsi dire absolue de ces conduits, ce qui est un perfectionnement dont on appréciera l'importance.

Si nous résumons en quelques mots les avantages de cette méthode de construction nous dirons :

Le ciment armé assure à un ensemble de bâtiments à étages une indéformabilité remarquable.

L'homogénéité de l'ossature générale donne à tout son squelette un liaisonnement intime. Sans vouloir aller trop loin il n'est pas téméraire d'affirmer que les méthodes couramment employées pour l'édification de nos maisons à étages sont plutôt défectueuses à cet égard.

Les matériaux de petit échantillon constituant les œuvres vives de nos édifices courants—les planchers n'étant trop souvent qu'un assemblage incohérent de matériaux à dilatation des plus variables—que peut être le chainage dans son ensemble et l'ancrage ? Illusoire la plupart du temps.

9. *Armoured Concrete Construction in Monumental Architecture.*

A Paper on the above by Herr A. de Wielemans (Vienna) arrived too late for translation and inclusion here, but will appear in the *Compte-Rendu*.

Resolutions of the Congress.

The following members took part in the discussion :—MM. Augustin Rey (France), E. O. Sachs, E. P. Goodrich (United States), Max Clarke, G. B. Post (United States), A. W. Ruddle (Peterborough), F. E. Harris (Manchester), E. Warren, Louis Cloquet (Belgium), Henry Adams, F. M. Day (United States), Edwin Seward (Cardiff), E. W. Fritchley (Bombay), and Ellis Marsland.

On the motion of Mr. Max Clarke (London), seconded by Mr. F. M. Day (United States), it was resolved :

That this Congress considers it desirable that an inquiry be made in the direction of what failures have taken place in reinforced concrete buildings, and as to the causes of the failures.

On the motion of Mr. Edwin O. Sachs (London), seconded by Mr. Edwin Seward (Cardiff), it was resolved :

That this Congress is of opinion that, where reinforced concrete is intended to be fire-resisting, the greatest possible care should be taken as to the nature of the aggregate and its size, and also as to the protection of the steel.

Subject IV.—THE EDUCATION OF THE PUBLIC IN ARCHITECTURE.

Thursday Morning, 19th July.—Grafton Galleries.

Chairmen : Sir Aston Webb, R.A. (England) ; Herr Stübben (Germany).
Hon. Secretaries : Messrs. A. G. Bzn Salm (Holland) ; W. H. Mitchell (Ireland).

1. By John Belcher, A.R.A., President R.I.B.A., President Seventh International Congress of Architects, London 1906.

The first step, as so often is the case, will be for the public to unlearn much that has been wrongly learnt. The superstitions of antiquity and the "styles" must be exploded. It must be made plain that neither a smattering of archæology nor a superficial study of styles affords a sound basis for a critical judgment in matters of present-day architecture, which must be presented to the eyes and ears of men as a living art, founded upon past achievements, it is true, but instinct with a power and vitality of its own.

Neither is architecture merely a matter of a beautiful exterior ; the importance of the "plan" of a building and of sound principles of construction must be pressed home. In other words, architecture is a science as well as an art, a blending of the two in such a way that the practical knowledge of the builder or engineer is interpenetrated by the artistic spirit, and made without prejudice or loss to subserve its ideals.

Instruction of a positive order will range itself under the three heads of Principles, Qualities, and Factors.

The principles of architecture are two, Truth and Beauty.

Truth requires that a building, both in its entirety and in its several parts, should never seem to be other than it really is.

This excludes all pretence of antiquity where no such claim exists.

It requires that a church should look like a church, a town-hall like a town-hall, and a private residence like a private residence.

An external shell of plaster over brick must not present the appearance of blocks of stone, nor a steel structure cased on terra cotta suggest solid masonry.

Good architecture never deceives the eye even for a moment. There must be no false suggestion as to the purpose or construction of the building, nor any hiding under one external feature that which is usually expressed by another.

The principle of truth, however, finds its widest scope in the true use of materials.

Every material has essential characteristics of its own, and therefore a proper place and purpose in building. There is a time and a use for stone and for each kind of stone, for wood and for each kind of wood, and so on.

To defy, neglect, or misuse the natural qualities of materials is not good architecture. These natural qualities will be roughly indicated under the head of Factors.

Beauty is the second great architectural principle. Its elements do not admit of popular exposition, but the public may be trained to recognise its presence by the appeal that it makes to their imagination and emotions. The fact that beauty can be felt, but not (ordinarily) analysed, is of importance in the education of the public, as tending to withdraw their attention from mechanical rules to the spirit that animates and pervades, like a living thing, the highest architecture.

An appreciation of beauty of form is less common than susceptibility to colour effects, and needs training and development.

The qualities that distinguish good work from bad may be classed as follows :

Strength.—It is not sufficient that a building be, in fact, strong and secure ; it must look so ; it must satisfy the eye.

The engineer may by exact mathematical calculation know that the conditions of security are amply fulfilled, but the architect has to see to it that the work presents an appearance of strength and solidity. The larger and heavier parts must be below; every arch must have sufficient abutment or even a tie-rod as well; solids when placed over voids must be strongly supported, and so on.

Methods of support and resistance must be clear and well defined.

Granite in the upper story of a half-timbered house may, as a matter of fact, be quite safe, but it *seems* to threaten danger; placed below, it satisfies the eye with its impression of solidity.

Vitality.—Evidence of life and growth, most plainly illustrated in Gothic work, where the perpendicular lines rising heavenward and clothed (as it were) with luxuriant ornament suggest the life of a tree or plant.

It is vitality that gives ever fresh combinations and effects from the same primary elements.

Restraint.—The limitation of means to an end, the suppression of all unnecessary parts or details.

Whatever be the nature of the building, there should be purpose, definite purpose, in every feature or ornament.

This may be illustrated under the head of Proportional Divisions (see Factors); but the general principle is one which will be readily grasped by the intelligent layman, to whom it will often suggest a line for thought and inquiry.

Refinement is impossible without restraint, but it includes also purity of form and perfection of material.

Everything must not only be the best of its kind, but so suited to its purpose that Nature will seem to have expressly designed it for that use and place.

The fitness of certain materials and forms for defined purposes and effects is subject-matter for an important chapter in the education of the public.

Repose.—Every really good work is clothed, as it were, in an atmosphere of repose. There is a sense of power, but it is latent power; there is evidence of vitality, but it is restrained vitality.

Effects too pronounced hurt the eye; ornament too profuse wearies both the eye and the emotions. There must be no "loud" or vulgar elements.

Grace.—A dignified seriousness of purpose should be observed in the appearance of all public buildings, but an expression of the graceful courtesies of life should not be lacking. In domestic buildings this element of grace takes a more prominent place, and assumes a higher and more refined form, corresponding to the tender sentiments of home life.

The public interest ought to be readily roused in this direction, and a demand created for a better class of small suburban residence.

Breadth.—The treatment of the subject *as a whole* in a simple grand manner, the proper massing of the several parts, the subordination of detail to the larger forms of the composition and to the bringing of the whole design into unity.

An attempt may be made by illustration and comparison to explain this somewhat technical term, that the public generally may be led to understand and appreciate this quality of breadth, which is so conspicuous in every great architectural work.

Scale.—The right relation of the several parts to one another and to the whole in point of size.

It will be pointed out that there are different scales in architecture, as in music, and that the varying effects upon the mind and heart are as powerful and distinct in the one case as in the other.

Also that the scale should be appropriate to the character and purpose of the building. A building of a monumental character or of great public importance should be designed and built on a large scale, and each part and every moulding should be of a proportionate size.

Factors.—In dealing with factors—the means which the architect has to his hand, as it were, for the attainment of his ends—it will be necessary to emphasise the fact that most, if not all, of these factors have their origin in utility, and answer some practical need in the construction or preservation of the building.

To forget this primary purpose and use them as means of artistic embellishment is to sacrifice use and convenience to artistic ideals, and is not true architecture.

The public are quick to recognise the importance of this in respect of window and door openings, floor divisions, chimneys, &c., but are apt to think of columns, pilasters, sills, hood-mouldings, cornices, and perhaps even buttresses as decorative rather than useful, and to suppose that the architect has a free hand in the disposition of them. Education in this matter will include instruction in the primary use of purpose of the common architectural forms, and will give an insight into the difficulty of making these forms serve the ends of use and beauty at one and the same time.

Such an insight—like propounding a problem—will go far to quicken interest.

The subject may be dealt with under the four heads of Proportion, Light and Shade, Solids and Voids, Balance and Symmetry.

Proportion.—Certain proportions are pleasing to the eye, and effects of proportion are obtained by the relative size of different parts.

The various ways in which the constructional parts and features of a building may be utilised to obtain proportional divisions, both horizontal and perpendicular, might be described in detail.

Light and Shade.—The advantage that may be taken of effects of light and shade might also be pointed out.

Solids and Voids.—The importance of a right adjustment of solids and voids, both in respect of size and position, would come next.

How easily a false scale may be set up, and a building made to look insignificant, by broad sheets of plate glass in the windows.

Balance and Symmetry.—These give a very distinctive character to a building, and aid in setting forth its special purpose. There is or can be rhythm in architecture, as in verse.

Material.—The right use of the various kinds of material furnishes an interesting and useful subject for public instruction.

The general principle having been laid down that every kind of material has its special characteristics, and should be treated accordingly—in other words, that its very best should be got out of it—a brief account of the natural qualities of the chief building materials (stone, wood, metal, bricks, plaster, &c.) would follow.

The following leading thoughts are appended by way of illustration:

When stone and brick are used in conjunction, the former should be accorded the more honourable parts—*e.g.*, quoins, architraves to doors and windows, sills, cornices, &c.

Granite, even if it could be carved for mouldings, should be used rather for strength and solidity than for ornamental features.

When the beauty of marble or wood is in its figure or colour, it is best exhibited in the form of slabs or panels; if moulded, the forms should be large.

Stone is granular, wood fibrous: each has its

appropriate forms and mouldings, suggested by the natural qualities of the material.

Wrought metal admits of the finer and more delicate forms, metal cast in moulds naturally assuming a more bulbous shape. Both kinds have their appropriate place and effective use.

Well-known examples of wrought-iron and cast-iron gates and railings afford interesting illustrations.

The foregoing summary indicates the main lines along which the education of the public in matters architectural should be developed.

Whether in public lectures, or in articles published in book-form, illustrations should be abundant.

There are signs of a wave of public interest in architecture which "taken at the flood" may become permanent and lead to great results.

2. By T. G. Jackson, R.A.

Importance of the public being qualified to know good from bad in architecture, since they are the employers with whom it rests to choose the designs of modern buildings.

Importance of architecture as the only necessary art, and one that cannot be evaded like the others.

Knowledge of architecture part of a liberal education.

Architectural works a main attraction to travellers at home and abroad. Nevertheless very imperfectly understood.

Various methods of educating the public in architecture considered.

The literary method. The vast bibliography of architecture.

Lectures on architecture, with illustrations.

Archæological and architectural societies, with their meetings and excursions.

Inadequacy of these means to qualify for a sound judgment in dealing with modern architecture, because they deal with the subject mainly from the point of view of archæology.

Imagined case of an archæologist called upon to choose among a set of competition designs. His standard of merit will be based on conformity to precedent and ancient example.

Archæology will never teach us to build up a new design sensibly and beautifully.

Proper use of ancient example, that of a tutor rather than a model.

Archæological study of architecture, moreover, only touches one side of it—the outside features of bygone styles, not their inner reasonableness.

All styles in the past have been based on natural and social reasons, and mainly on construction, and their general form and features are such as have been suggested thereby and are expressive of it.

Greater dignity of architecture regarded from this point of view.

So long as we think the essence of a style consists in its outward features we shall fail to understand the true nature of it.

This, however, is the case to-day.

Architecture, whether ancient or modern, must be called upon to explain itself and give a reason for its design, and be judged by that, instead of by mere conformity to precedent.

One effect of the false view of the subject is to teach that architecture is ornament applied to building. A fatal fallacy.

Desirability of reforming the course generally taken by writers and lecturers in the direction above recommended.

Need of awakening public interest in modern work. It rests with architects to show that our art is still alive, and not merely a dead language.

After all, the best means of education is by the production of well-designed buildings. Architects the best teachers, and real work more edifying than books or lectures.

3. *On the Public Appreciation of Architecture.*

By Arthur Hill, B.E., M.R.I.A.,

Lecturer on Architecture, Queen's College, Cork.

For the intelligent appreciation of any art or science some knowledge of that art or science is indispensable. It is not to be expected that the ordinary non-professional observer will take an interest in what he does not understand. To many people a new building represents nothing more than the money it cost, that being the only scale they are capable of applying to the object.

The value of University training for professional purposes does not now need an argument; the principle has been already adopted in some of the modern universities of this country. But why should the teaching be limited to professional students? Why should not the history of architecture, taught by a professional architect, be included as a branch of general history available to students specialising in history for the B.A. degree?

Several universities admit lectures on classic art and archæology, but the "mother of all the arts" scarcely receives adequate treatment in lectures of this kind. Why limit the subject to the classic period? Does not architecture, taken as a historical study, reflect the social conditions of a people in one century as well as in another? Taken from its own standpoint as an art, how can an artistic sense be better cultivated or acquired than by a critical review of the best buildings of all time that have survived to the present day?

Lectures on the history of architecture, showing its true basis of evolution, delivered by trained architects, and with the prestige of the "university," would exercise an important and beneficial influence on the public appreciation of our art. For, in addition to the students who would take the university course, it may safely be assumed that through the medium of the University Extension System, which is bound to follow the example of the parent university, lectures would be given and considerable interest aroused among a number of people in many parts of the country.

There can be no doubt that the criticism of those who have had the necessary training on which to form an opinion would be a valuable aid to the development of good architecture throughout the kingdom and a stimulating influence both to the architect and his client.

This is not the only way, but perhaps one way in which the public may be brought to take more interest in our professional work.

4. By Professor Othmar v. Leixner, Architect, Custodian of the Imperial and Royal Central Commission.

[*From the German.*]

The solution of this question is of the greatest importance for architects as a professional class. The neglect of the public to take an interest in architecture has an unpleasant influence on the position of the modern architect with regard to his social standard, and also in relation to the question of the preservation of fine art monuments, which at the present time has become a matter of great importance.

I propose to consider this question from the following three points of view:—

1. What is the attitude of the public at the present time towards architecture?
2. Where are the causes of this attitude to be found?
3. What are the means and methods at our disposal to bring about an improvement in this state of affairs?

First Question.

The public of the present time generally shows a very lively interest for the art of painting, that for plastic art is very much less universal, and with regard to architecture the public shows almost no interest at all.

This scale of interestedness is very curious and very interesting to follow up.

If we watch the public in exhibitions of works of art, in the museums, and on travel we shall arrive at the following results: The interest in modern and in historical paintings is everywhere very great and very genuine. The public is, as a rule, well informed, and is able to explain a great many points: it often forms remarkably independent opinions, and is generally right in appreciating the value of individual productions.

At the fine art exhibitions and in museums the public gathers in groups round the pictures. It often shows a general interest, so that even works without any very striking features are the object of a minute examination. Now and then can also be found a very genuine interest in small plastic objects, whereas those of large dimensions, if they do not pass completely unobserved, are at least the subject of only a quite superficial examination. The judgment of the layman about plastic works of considerable dimensions is as a rule uncertain and timid. Only exhibitions of groups of plastic artists of very great renown, such as Meunier, &c., seem to command a really lively interest. If we go to the museums we shall find that the public remains in hesitating contemplation even in presence of the masterpieces of the plastic art of antiquity, while it examines with a lively interest even the paintings of inferior artists of the quattrocento. The public generally neglects visiting architectural exhibitions, saying, "Oh, we do not understand anything about it; there are nothing but plans." In the rooms set aside for architecture we generally only meet with members of our own profession. It is impossible to speak about an opinion of the public on questions of architecture; for even if it expresses one, it will be found that it is never the expression of an individual, but it will nearly always be found that this opinion has been influenced by other persons. In spite of all the uncertainty of the public with regard to styles of architecture, it always tries, however, to make out the style of any particular building; but the forming of an idea embracing the whole edifice is never attempted. Here and there some details attract some attention, such as doorways, windows, gables, verandas, &c. Unless his attention be drawn to them the non-initiated will pass without observation even before the most wonderful masterpieces of architecture. In the case of historical buildings the principal interest is often caused by the antiquity of the monument. Buildings in a state of ruin generally make a deeper impression on the masses than buildings which are well preserved. In the case of the former the mind of the observers is greatly influenced by the poetical impressions and by the character which the ruins give to the landscape. With persons who are not architects, but who possess a receptive mind for objects of art, the interest they show will always centre on buildings of a pure style in preference to those in which several epochs are represented. But the layman will never be able to follow the real idea of the composition. As a final result of our meditations we may safely say that the public shows an indifferent or at any rate a very timid attitude with regard to architecture.

Second Question.

The reasons for this attitude are the following:—

1. The peculiar method of the education at school, especially in the teaching of freehand drawing in the lower as well as in the higher schools. Until quite recently it was customary to teach drawing in such a manner that the pupil only learned to know the level surface and the colour; the general rule was to give to the pupil a model drawing to copy, and the teaching was limited to two dimensions only. The teaching of drawing objects in perspective was limited to a minimum. By this fact is explained the understanding of the image and the colour, and the uncertainty or incapacity to understand productions of the plastic and architectural arts.

2. The interest in painting is, moreover, favoured by the great periodical exhibitions of objects of art by the museums, by the generally intelligent and good criticism in the newspapers, by the assiduous reading of fine art periodicals, which at the present time can even be found in café restaurants. Mention must also be made of the numerous popular lectures on certain subjects of modern and historic painting. A great influence is also exercised by the abundant and cheap literature about the art of painting (monographs of painters, &c.). If we come to the plastic art the circumstances are already less favourable.

In the exhibitions the plastic art occupies a much more limited space: its literature is much poorer, lectures on the subjects are few, and the criticism of to-day is much less prominent and more timid, and to this must be added the difficulty of understanding the laws of the three dimensions.

When we come to architecture it is almost totally deprived of all the necessary conditions of vitality.

The exhibitions are very few and far between, and public lectures on the subject are almost unknown, and finally there hardly exists any literature at all on this art. The understanding of the three dimensions in architecture is even more indispensable than in the plastic art. The criticism of to-day, even if it sometimes occupies itself with a question of architecture, is not generally lucid, and, as a rule, is not understood, because persons without any knowledge of the science of architecture will never be able to thoroughly understand a question of architecture unless the writer, however clever he may be with his pen, happens to possess the necessary technical knowledge. Finally, as a last reason, it is necessary to mention the opinions so diametrically opposed which exist among the body of architects themselves. By what means could the non-initiated form a somewhat clear judgment if the architects are nearly always at war among themselves about the principles of their art? Neither must we forget to mention the frequently astonishing negligence of Governments in giving the orders for a public building to be constructed. The modern State buildings, which if they were models of good architecture would contribute to educate the taste of the public, are often built by persons who have a very poor knowledge of art.

Third Question.

To bring about an improvement in this state of things Governments and the societies of architects must unite in their best endeavours.

1. The instruction in freehand drawing must from the beginning be given, not by model drawings of level surface, but from the actual bodies.

2. It should be the duty of the State to have public buildings of a certain importance constructed, not by officials, but by artists.

3. The societies of architects must carry out the following programme:—To arrange exhibitions of modern as well as of historic architecture; to give popular lectures on the subject; to take an active part in the literature on architecture, especially on questions of actuality; to gather together all the artistic elements, and to settle vital artistic disputes among the members themselves; to publicly exclude all those elements which in our days so frequently put architects of real artistic merit in the shade, and which contribute to corrupt the taste of the public; to give the most efficient assistance possible to writers possessing a technical education who contribute to render architecture popular by summary as well as by more voluminous publications; and finally to bestow particular attention on the cultivation of national art among the local associations, with a view to the preservation of the monuments of the country.

5. *Architecture and its Place in a General Education.*

By Banister F. Fletcher, F.R.I.B.A.

PART I.—ARCHITECTURE.

The works of man, as presented in architecture, form a lithic history, and indicate the social condition of the peoples of bygone days, thus linking it inseparably with history.

The architecture of the Egyptians indicates their mode of life, the powerful priesthood, and belief in a future existence.

Western Asiatic architecture shows the records of a nation of warriors who employed their prisoners to erect elevated platforms upon which were placed palaces and temple observatories for the use of the astrologers.

Grecian architecture indicates the progress of Grecian civilisation, and the existence of temples, theatres, palestræ, and stadia evidences the national love for religion, the drama, philosophy, and outdoor sports.

Grecian architecture and civilisation formed the parent stem of most subsequent European styles.

Roman architecture was a complex type, the use of concrete rendering possible the erection of various kinds of buildings. Roman civilisation was faithfully mirrored in Roman architecture, which became the type of all later European styles. Roman art and literature were at their highest state in the Augustan age. The decline of the Roman Empire accompanied the decay of art.

A new force—Christianity—brought about a revival of architecture; but this, like the new faith, was slow in developing.

Byzantine architecture, resulting largely from the removal of the capital to Byzantium, has remained as unaltered and unprogressive as the orthodox faith of the Greek Church.

The Romanesque style was one produced by the barbarian tribes who conquered the Roman legions. It was in imitation of the Roman art which they saw around them.

"Gothic" architecture was the result of the formation of the European States, the wealth, learning, and prominence of the monastic orders, and the religious enthusiasm of the time. The Church was the greater avenue for advancement during the Middle Ages.

The cathedrals formed the history books of the time, their beauty being due to the concentration of the artistic energy of the period. The fortified and frowning castles of the nobles testify to the existence of the feudal system.

The Renaissance of the fifteenth century in Italy was brought about by the discovery of the Greek and Roman MSS., the invention of printing, the discovery of gunpowder, and the mariner's compass. Other events were the capture of Constantinople by the Turks in 1453 and the influx of Greek scholars and artists into Europe.

It became the fashion to talk in Latin, and there was thus a close connection between the architecture (which was a modified form of the Roman Orders in conjunction with the Byzantine dome on pendentives) and literature.

The invasions of Italy by French kings exercised a great influence by the consequent distribution over Europe of Italian artists and workmen.

In England the Renaissance synchronised with the Reformation, and was greatly influenced by the suppression of the monasteries, endowment of grammar schools, destruction of the old nobility in the Wars of the Roses, and the rise of the merchant class.

The facility of travel and other causes led to the revival of all styles in the nineteenth century.

Requirements of our complex civilisation produce modern types of building, and no new systematised style is likely in the future.

PART II.—ITS PLACE IN A GENERAL EDUCATION.

Why is architecture, the petrified history of the past, not generally included in educational schemes?

Its absence is probably due to its technical nature. Its importance as a general subject has not been realised, though it is inseparable from the progressive history of every civilised nation. The subject must be illustrated, for without views and plans it is akin to a play which is read instead of being witnessed on the stage.

The use of photography in conjunction with lantern slides nowadays enables a lecturer to fully illustrate any period of architecture.

The technicalities are simpler than in most scientific subjects. It can easily be invested with human interest and made intelligible to the ordinary student.

Architecture, as the work of human hands, is the result of brain power or thought, and is therefore more worthy of inclusion in a general education than a score of subjects which have secured recognition and protection.

A study of architecture enables us to interpret the moral, artistic, and religious character of humanity, and a knowledge of the profoundest characteristics of a nation may be gleaned from a study of its buildings.

It might be expected that our older Universities, such as Oxford and Cambridge, would welcome the study of an art which is so bound up with humanity of all ages, and would provide for a special faculty to advance the general study of architecture, apart from its adoption as a profession.

Its inclusion would be far-reaching, and many benefits would be derived by the public, who would thus be enabled more fully to appreciate the works of art which are to be found in the highways and byways of every land, and which serve as free galleries of art.

Further, the study of architecture is necessary to a complete understanding of history, and gives an added interest to travel.

Bishop Creighton defined architecture as the most democratic of all arts, and pointed out how it is equally for everybody—rich and poor alike. History has been to architecture what steam is to machinery, the grand propelling power; and it may well be described as the printing press of all periods. It calls into action so many branches of mechanical labour which promote national prosperity

that it is therefore more entitled to the attention of the general student than any other of the fine arts, a further reason why the general community should acquire a taste for it.

As the art which shelters us from the elements, and with which we come in daily contact—as the art which gives us "home" and enshrines and illuminates the most sacred of our associations—and, lastly, as the mother of all the arts, architecture is certainly worthy to be included in the curriculum of a general education.

6. By Francisco del Villar y Carmona, Manuel Vega y March, and Eduardo Mercader y Sacanella.

[*From the French.*]

The want of architectonic education among the masses of the public is everywhere a general fact. Owing to local circumstances and to the various shades of the phenomenon it is generally attributed to different causes; there is in reality, however, but one, and this is the most pitiful ignorance of what constitutes and characterises our art.

The reality and importance of the subject are of course evident, as well as the necessity for affording concrete solutions that may modify the actual state of things for the benefit of the public, whose education will advance; of architects, whose status will improve in proportion as their efforts are duly appreciated; of art, by means of which it will ensure the respect of everybody, and will henceforward be free from sacrilegious attacks by the ignorant masses.

Public architectonic education includes two problems: first, to teach people what architecture is; secondly, to direct their taste, so that knowing what art is they may point out the best models. This second problem is only an aspect of the general one of artistic education, which nowadays one tries to solve in all art manifestations.

It is necessary to educate public taste in architecture as we educate it, for instance, in music or in painting. In reference to the first, I must say that though almost everybody knows, instinctively at least, what music is and what painting is, yet very few know what is meant by architecture. Therefore it is necessary to teach it, and before doing so it would be wasting one's time to pretend to educate public taste in art.

In order to solve the first problem it is necessary to make the public understand that architecture is all that realises art in a building. There is, or there ought to be, art in the selection of a site; in the distribution of a building; in its situation; in the selection of materials; in the silhouette of the whole building; in the composition of the façade; in the decoration of the inside; in the distribution of light and shade; in the sanitary arrangements; in comfort; in the cleverness with which inside and outside aspects, diversified or uniform, are brought about; in the whole impression of the building upon its dweller or upon the spectator; in colour; in relief; in proportion; in material security; in a word, in everything which reveals the thought of the artist-architect and the influence of his soul on the work. Art is to be displayed in buildings, gardens, towns, and even in the country. By architecture is meant the construction of a cathedral, of a bridge; the distributions of a mansion, as well as the projecting of a village; the sketching of a road, the aperture of a canal, if there is art in them.

To solve the second problem it is necessary to feed the public imagination with examples, as well as by teaching them what in the present and in the past has been best produced in architecture; and in addition, to keep them free of all exclusive preference of school, giving them to understand that only what is true, sincere, direct and spontaneous is good in art. What really stands against beauty is untruth; and everything, whether poor or sumptuous, little or great, transitory or permanent, may be artistic if it be sincere. But what is architectonic sincerity? It is the essential quality of beauty, viz harmony. If there is harmony between the aim and character of a building, between its wants and its aspect, between its style and distribution, between the forms and distances, between the impression of the whole and every one of its inherent parts, between its materials and the use made of them and its appearance, between the moral and material aspects within the order of the purpose which the building is to fulfil; if there is harmony between the immanent logical conception of the building conceived and its corporeal realisation, in the whole and in its parts, beauty then really exists. If there be anything, however so trifling, contrary to this harmony, no beauty can exist. That is the measure which must be made clear to the public, so that they may formulate their judgment with accuracy, and be enabled to give their assent only to what is a good æsthetic theory.

To obtain these ends we recommend the adoption of the following means:

1. Every Government should order to be placed in its primary schools photographs or drawings showing the classical works of all kinds and specimens of architecture, with an indication of its style and epoch.

2. The teaching of æsthetics and of the history and theory of the fine arts should be included in the general curriculum of schools.

3. Schools of every kind should be compelled to teach elementary architecture.

4. All countries should promote permanent exhibitions of architectonic works, conveniently classified, represented by drawings or photographs or models, and illustrated with short descriptive explanations.

5. Governments should encourage all kinds of publications for the divulgation of art, instituting for the purpose rewards and bounties. They should also purchase a considerable number of them for distribution among public libraries, and their price should be such as to place them within reach of persons of small means.

6. Free chairs should be endowed for the divulgation of the history and theory of architecture.

7. It would also be expedient to arrange cheap excursions to the most renowned buildings of all countries, the parties to be presided over by an architect who would lecture on the monuments visited.

8. Money bounties should be awarded for the best collections of buildings or architectonic works exhibited in cinematographs and theatre-sceneries, &c., of which municipalities should afford gratuitous displays.

9. Artistic educational associations should be organised for the propagation everywhere, and with all the means at their disposal, of the teaching of art, more especially of architectonic art.

7. By Otto Wagner, Imp. and Royal Superintendent of Works; Professor of the Imp. and Roy. Academy of the Plastic Arts. (On behalf of the Society of Austrian Architects.)

[*From the German.*]

The Architectural Education of the Public enters, by the discussions about Question I., already into that field from which a correct answer may be hoped.

If the best model buildings are created by eminent artists, the artistic interest of the public is sure to be awakened, or that already existing will be increased.

It is, however, to be understood that the main condition always holds good, viz. that these models shall be of a very high artistic order; consequently, that they owe their origin to first-rate artists. Artists of the first class will adapt every work to the purpose for which it is destined, in every particular; they will make use of the most convenient material, and of the proper method of construction, in order to produce the best forms of art. Only in this way the desired characteristic and beauty of the work will be created, and only these will be able to satisfy the spectator. No doubt, then, the recognition will flash upon the spectator that the artist expresses his ideas in a language intelligible to all. But if the spectator is able to understand a work of art, his aversion to enter into the study of a work will vanish, and will be replaced by the possibility and the will to judge it.

No doubt in order to create model works of architecture the co-operation of the State is necessary, because it is in the first instance the duty of the State to favour art, which is the gauge of civilisation of mankind.

This State help, in order that it may be efficient, is only possible by the State, the country or a city—since it does not itself possess the necessary artistic intelligence—making use, for the solution of all questions of art, of an appropriate organisation, a senate which should be exclusively composed of participating artists, who would have to watch that only good work be produced.

The answer to Question IV. must therefore be:

The architectural education of the public can only be rightly influenced by good work, for nothing is so victorious as good work.

8. By Gaston Trélat (Paris).

[*From the French.*]

Summary.—The contemporary phenomenon of democracy characterises the world in which we are called upon to develop our powers. It tends to establish the equilibrium between classes. From it result comprehensions and feelings which from day to day become more general. So much for the nature of the spirit which characterises the public of our time.

Discoveries, which are due to the great initiators of the time, have lighted new paths in the matter of the salubrity of houses. Hence the anxiety with regard to the public health which we see nowadays. No sphere escapes from this anxiety, which seems to be a mark of our time, and which one may describe as a happy beginning.

In the same way, in consequence of an education perhaps unconscious but very real, the plastic arrangement of material has become a cause of impression in all social spheres. At least one meets everywhere people of unquestionable taste, who are sensible of correctness in form, this being always in accordance with the mode of imperfectly seen realisations.

Conclusion.—Architecture is related to many sciences which have a living interest for the public. It is the object of current applications for these sciences, from which results an immanent cause of interest for the growing mass of the intelligent public.

But, again, the number of the admirers of public beauty increases daily; and as architecture is a considerable element of it, one sees there the evidence of a continually increasing education.

9. By Gaston Anciaux. (On behalf of the Central Society of Architecture of Belgium.)

[*From the French.*]

In the words of Mr. Morris, "Art must be made for the people, and by the people." This latter idea, in the present state of things, seems to be rather utopic.

If, however, we must take care not to reject it as being too idealistic, it must, on the other hand, also be admitted that at the present time, in spite of the enormous progress realised in every field, we are not only very far from Art by the people, but also very far from Art for the people.

And why is this the case?

Camille Mauclair in a recent article in the *Revue Bleue* tells us in a sarcastic but characteristic way:

"It is not a question," says Mauclair, "of placing an individual who swears, who spits, who shouts, who does not wash himself, before a masterpiece and thinking one has done one's duty by him. What is wanted is to lead this individual by persuasive teaching to the idea that it is the duty of every reasonable being to become more refined; and it is in this way that he will be rendered capable of understanding and recognising in a beautiful thing the common inheritance of his race. In a word, it is necessary to form the character of the people in order to prepare it for art, and not to expect that in putting it into direct contact with art it will be provided with a character.

"A working man may render himself worthy of appreciating a masterpiece, but a masterpiece has not the virtue and has not been created to refine a working man."

And does not what M. Mauclair expresses in such an incisive manner with regard to the people properly so called apply fairly exactly also to our crowds, to the great bulk of the public?

Without wishing to go so far, without wishing to be pessimistic, it must nevertheless be admitted that much needs to be done in this respect.

In fact it is with strong reason that the question of education with regard to architecture has been put on the order of the day of the present International Congress of Architects.

We therefore are of opinion that long explanations on this point would be superfluous, and we shall at once come to the conclusions which we wish to propose to the Congress on this matter.

Conclusions.

The education of the public in architecture can only be brought about by long, patient, and unceasing effort.

The most practical means to educate the public in matters of architecture are of a very numerous and of the most varied order.

Among these the following seem to us to be more particularly proper to give good results:—

A. For the future:

Within the shortest possible time:

To establish or to develop at the various stages of teaching special lectures adapted to form the taste for architecture; or better still, above all in the classes of the elementary and secondary schools, to infuse this element into the general matter to be taught without making it the object of a separate course of lessons.

For this purpose, especially to divert to a greater extent the teaching of the history of wars and of politics of the nations towards that of the various stages of civilisation, by characterising them by their stages in architecture, without, however, separating this characteristic element from the most salient features of manners, costumes, and social institutions of each of them.

Similarly to alter the direction in the teaching of geography in the same sense. For this purpose to arrange excursions for the pupils in their native town, in their province and their country generally, and even to foreign countries if possible. To illustrate with the same view the classical works with vignettes representing not only typical sites but also views of monuments and interiors (by preference of those still existing). To frame the text with ornamental fragments of an architectural and decorative nature by the best masters of the periods under consideration, and to choose only the most characteristic from among them.

To reform the present collection of pictures in schools in a more artistic sense by having recourse to artists of value, and by making use of the modern processes of perfect and cheap reproduction, such as phototyping, chromolithography, &c.

To put, however, into the hands of the pupils only elements of the very best kind, and to look to quality rather than to quantity, to the composition rather than to the details.

For the teaching in the most advanced classes, to create professorships specially affected to architectural art and its philosophy.

To have this delicate subject only taught by a particularly able and specially competent *personnel*, as in the adverse case the results can only be disastrous and diametrically opposed to the aim in view.

B. For the present:

To take action in such a way as to obtain the realisation of the following desiderata:

(1) The creation of not only central museums of architecture in the capitals, but also provincial ones in the smaller towns of the country.

These museums would either be connected with the museums of painting and sculpture, or rather joined to the museums for the moulding and decorative art of which they would form the head.

These museums would contain, besides the graphic executions, the rough models, the photography and aquarelles which would be more suggestive and more attractive to the public than the technical drawings.

These museums would also contain complete decorations of furnished interiors, where the properly so-called architectural framing largely treated would be accompanied by the explanatory graphic documents.

(2) The organisation in these museums of numerous public conferences and attractive temporary exhibitions of architectural works of recent creation or of projects of architecture, the latter in the widest sense of the word.

(3) For the public authorities to take care that only constructions, be they important or accessory, of a temporary or a permanent nature shall be erected which are proper to form the taste of the public.

10. By Albert Mayeux.

[*From the French.*]

Of all the arts architecture is the one which concerns, or must concern, most mankind, since it is in relation with one of the immediate necessities of life—habitation.

Of all the arts architecture is the one which has in the highest degree exercised the genius of man, by the reasoning which is necessary for the conception of projects of an infinite variety, for their realisation, and for the research of an æsthetic sensation in most of these projects.

It is also the only art which, so to speak, was created in all its parts by man. Whilst painting and sculpture only contemplate nature in different ways, taken as a model it is transformed by architecture, and new forms are created, and in order to succeed in this even new products are created.

On the other hand, the painters and sculptors have but few or no co-operators; the architect, on the contrary, has a legion of them, from the navvy who makes the excavations to the tiler or slater who covers the roofs, and this even for the simplest object, sometimes only a humble shed.

Architecture is, therefore, an eminently collective concern, which nevertheless must interest the people, if it is possible to explain to them the reasons for the interest they must bestow on it.

The works of architecture, from the simplest constructions to the most sumptuous monuments, may be considered as immovable objects which form one of the principal items of public wealth. Even leaving on one side the question of their usefulness, how many monuments, not to say even how many interesting constructions, are sources of wealth for the country. Chartres, Reims, Amiens with their cathedrals, Versailles with its palace, Rouen with its palace of justice, Nancy with its squares, and Carcassonne with its ramparts, bring to the towns to which they belong an undeniable moral as well as a material profit.

That is to say, that the creations of architecture have a right not only to the interest but also to the respect of everybody.

It is necessary to teach the public, to tell it again and again the value of the existing buildings, in order to prevent the mutilation and the total or partial destruction of the works of architecture, making appeal not only to the sentiments of morality and esthetics, but to those of social economy as well.

Architecture being of all the arts the one which reflects in the most intimate way the moral state of a period, to such an extent that it has been said that a monument was a *book* of stone in which history could be read on its indelible pages, it must be understood how much its teaching may be interesting to the public from the point of view of curiosity alone.

That is to say, that the faces upon which these teachings can be read are numerous and varied, but in order to be able to read it is necessary that they should be brought within the intelligence of the spectators, according to the surroundings and the class of public.

Now the public to whom an architectural education can be given is of two kinds—

(1) The youth frequenting the schools and the soldiers.

(2) The independent public.

The teaching to the students can naturally be imparted to them in the schools, lyceums, and colleges, and that to the soldiers in the barracks, whilst on the other hand the instruction of the public may take place in the shape of conferences and collective visits.

A complement of instruction exists more or less for everybody in the books and libraries, but this is a means which it must be known how to administer, and which, in any case, is outside the range of a programme of special studies such as we wish to propose to the Congress.

The Teaching of School Children and Teachers.

Already in the elementary school the teacher can open the mind of his young audience by speaking to the children—of course only very shortly—of the general beauties of the buildings which can be seen or visited by all. But if he does not merely limit himself to a burst of admiration in the presence of superior works of art he will attract attention to some modest building; if in the country, for instance, before a *barn*, by trying to

analyse the work to an extent that his young hearers can understand.

He will say, for instance, first, what is its use, the reasons of its particular shape, the reasons of its walls, of its timber work, of its roofing, of the materials used in the construction, &c., so as to leave in the mind something more than a vague and in consequence fugitive impression. On another occasion he will take his pupils to a school house, a chapel, &c., preparing them in this manner for a more extensive education in the future.

Some visits to building yards in activity, or into workshops where it will be possible to show the children the wrought materials, will be an excellent complement in the education.

In short, he will instil into them a sort of respect for the collective efforts which are already represented by those modest buildings, which will give them some idea of the gigantic effort which must have been at work in the building of the large church or the big town hall of the district which has not yet been spoken about, but which they may have had occasion to see already. Needless to say that in the towns the examples will be more numerous, but the method will be the same: from the simple to the more complicated.

For the lyceums and colleges, the teachers of which have had a superior education, the same subject may be developed by making use of engravings, drawings, and photographs of architectonic works, choosing simple rather than complex specimens, in which always the spirit of analysis and of criticism will follow the more or less lively phase of admiration which must necessarily precede in order to attract the attention of the audience.

With regard to the teaching of architecture in the normal schools for teachers, it may be much more developed in the shape of special lectures, in which an erudite and eloquent architect would be better in his place than a professor of science. In fact, in such schools, where teachers are to be educated, it is necessary to say and above all to explain more.

The general features about monuments are no longer sufficient; it is necessary to enter upon the essence of the subject, to speak of the basis of the programme, of the composition of the forms, of the proportions, of the relations, of the silhouette, and of the decoration; it is necessary to insist on the necessity of particular organs of the work which do not exist in other kinds of buildings, such as buttresses, large resting points, composed pillars, large or reduced bay windows, flat or steeply inclined roofs, &c.

Finally, the historic and archæological part, which is altogether omitted or very limited in the elementary school, at the college, and in the lyceum, becomes very important in the normal schools.

The study of the style, its tendencies, &c., complete as far as possible the teaching in question.

The Teaching of Soldiers.

It is naturally at the barracks that the instruction of soldiers can be carried out, but, as it is rare that the garrisons are not placed in a town of some importance, the officers will be able to arrange visits to the monuments and to the factories in the district, under the guidance of men whose professions in civil life are connected with the building trade.

At the barracks those officers whose tastes are in the direction of practical science and art could deliver some lectures on the monuments visited, and if, in the course of the manœuvres, the troops encamp in a region which possesses one or several monuments of some interest, these officers could, in the moments of leisure, explain to their men what they know on the subject, the historic features of the buildings, the nature of their construction, the judicious use of the materials, &c., and finally explain the respect which should be shown not only to a fine piece of work, but to a collective work produced by the united efforts of so many artists, craftsmen, and labourers. Finally, they might insist upon the moral consequence of the love of manual work, the tenacity and the faith of which the men of those trades gave proof who contributed to produce these admired monuments.

The Teaching of the Independent Public.

Once come out of the school or the college, and free from military service, man becomes free of his movements, and if his tastes carry him towards the study of art or archæology he can, without being a specialist, increase his knowledge in architecture. For so doing he must feel some inclination, because nothing obliges him to do so, and if he is encouraged to cultivate it this must be done cleverly and wisely.

To accomplish this end the best of means to attract the independent public is once more the public lecture made pleasing and attractive.

The lecturer will therefore, as a rule, after having explained his subject, commence by showing by drawings prepared for the purpose, or by photographs, the monuments about which he is going to lecture. If he is able to make good sketches on the blackboard this may be excellent. Finally, if it is possible to have recourse to projections with the oxyhydric light he will do well to use this process, because the magic lantern of our fathers, especially with its modern improvements, exercises always the greatest attraction. To see, being comfortably seated, without even having to go to the trouble of turning one's head or the leaflet of an album, to hear explained at the same time the edifice in question, to make no other effort except that of understanding, is the ideal of the great majority of the public attending at lectures. If the hearer understands, so much the better; if he retains nothing of what he saw and heard he has at least been amused. In fact, you no longer amuse him if he stays away from the coming lectures.

By the side of these hearers, who are merely curious, there are sure to be some others who want to learn, and for these the lecturer will do well to complete the general descriptions, showing cause why it is justifiable to admire architectural works exposed to view for the purpose of arousing the enthusiasm of the public, by explanations about the technical part of the arrangements and of the way in which they are constructed. Over and above the beauty of the proportions and of the decorations which alone generally captivate the uninstructed public, he would speak of the structure, of the essential organs, of the practical points which gave origin to the conception of the building, interweaving from time to time, with a view to break the monotony of the demonstration, some anecdote, a fragment of history, a legend, and the like. If he makes the audience laugh or smile so much the better; if he wants to make his hearers think and reflect too much he will soon create a relative emptiness in his lecture hall. This kind of lecture requires some wit and tact.

One piece of advice the lecturer might give with advantage to his convinced hearers will be to have recourse to libraries, by pointing out immediately the works bearing on the subject of which he is treating, so that they will be able to fill in the gaps of a description which must of necessity be summary and rapid, because the strained and prolonged attention is a fatigue which the hearer only wants to bear within certain limits. The

independent public—that is to say, persons who are not compelled to do anything—is very difficult to satisfy, and the convinced among the hearers are more exacting than is generally thought, for the reason that it is seldom that an immediate aim is the cause of their attendance; it is rather a vague and healthy curiosity which induces them to attend at lectures.

To instruct and at the same time to entertain, even for such a serious subject as architecture, such is, in our opinion, the line of conduct to be followed before an audience of independent listeners.

It is impossible here to draw a positive programme of instruction, the professors and lecturers being of different temperaments and aptitudes; it is only possible to point out a general line on which to proceed.

Collective visits to monuments and even to towns on the road of excursions at reduced prices, and all the pleasantness connected with similar excursions in company, are also to be enumerated among the best means of teaching architecture, because the sight on the spot conveys more to the mind than the best of photographs, and with a good lecturer cicerone the result, which, in short, is to succeed in developing interest and respect for the monuments and the necessity of their preservation, will then be completely obtained.

The question put by the Congress which we have answered in the foregoing seems to be of primordial importance, and we therefore utter the wish that societies similar to ours should study the elaboration of *Standard Manuals* for the use of lectures.

11. By Jean Gilson, Architect, Brussels, Professor of Drawing at Boitsfort.

[*From the French.*]

"Art comes from man and is intended for man. It is the flame of a spirit, its radiance; it cannot fail to affect first of all the being from which it emanates, and afterwards, from one to another, some other beings," said M. Sertillanges.

It is the same with Architecture, the queen-mother of all the arts; destined, above all, to strike and to captivate the attention of the public. To attain this highly desirable end, which ought to be the object of a noble emulation, always on the alert, it would be necessary, to start with, to try to call forth gradually among the general public the beginnings of the æsthetic sentiment, which in a great number exists in a latent state.

It is therefore necessary that those who are convinced, the enthusiasts who possess the cult, and consequently the enthusiasm for art, shall fight, without respite and without weakness, against the slow and growing invasion of the domain of inspiration by pedantry which pretends to domineer and to reduce to mathematical dryness the creating genius.

Thus it happens that too frequently the mission to initiate into that immaterial thing called "art" is entrusted to *pedagogues*, to teachers, while the professional practitioners who have made of æsthetics and of their multiple applications the study and the constant practice of their existence are given the cold shoulder.

It would therefore be greatly desirable that *only* persons initiated into the sublime and imperishable beauties of art, special professors who have shown special capacity and made special studies, should be entrusted with giving to school children as well as to young men a good and healthy education of their visual organ either by the daily environments of the educative centre, or by rational visits to museums, by excursions, by illustrations, books, &c.

For it is desirable to try, from early childhood, to move the hearts which gradually and naturally will feel themselves attracted in this manner towards the works of art.

Art and history are in relation with each other, and art is the man.

In every epoch, in the creations produced by Genius one can see manifest itself for posterity all that which characterised the man-creator: his thoughts, his feelings, the moral and social life, in a word the various degrees of civilisation at work.

Consequently it is necessary that our creations should speak with eloquence to the attention of the passer-by or to the visitor, that they should be healthily conceived, and that they should represent clearly, by characterising it, the idea of their author. It is important that these creations should be in direct relation, not only to the surroundings in which they are placed, but also to the customs which have inspired their creation; it is necessary, moreover, *that all the decorative arts* should move in harmony with architecture, so as to give the impression that they were all one and the same conception!

Let us likewise avoid the mistakes and exaggerations of the modern at any cost!

Let us carefully avoid trying to be innovators moved by the unwholesome desire to astonish, to stupefy the public!

Let us prove to this public that we endeavour to initiate it into the imposing splendours of the beautiful, to all the importance of arduous work, to the never-ceasing study which our art requires.

Let us make efforts to revive again the corporative spirit from which came to us those admirable and sublime creators: artisans, ignorant of the rules of pedagogy, even almost illiterate, which did not, however, prevent them from producing immortal pieces of workmanship, pure masterpieces of architecture, of tapestry, of ironfoundry, of joiner's work, &c.; privileged practical workers with an immortal genius, to whom we are indebted for our jewels of architecture as well as for our jewels of the decorative art, the one forming the pride of our ancient cities, the others the wealth and the value of our museums.

Being thus animated only by the care for the vital interest, for the future and the dignity of our profession, let us unite our efforts so that we may succeed in the creation of the *diploma*, which would be granted by a jury composed of master architects of recognised talent and merit.

This essential measure of safeguard would keep away the ignorant and incompetent who in our day give themselves the name of "architects," abusing this title, and, in fact, creating great prejudice to the prestige and good reputation of the profession!

To obtain this desirable end *the Press* might be a powerful auxiliary.

If the Press would second our efforts, what a glorious educative part it would play!

It could interest and instruct the public by publishing judiciously written articles, commenting upon and bringing before its readers the qualities and merits of the works which are really worthy of such name.

Let us declare it: it would be highly desirable to see the Press bestow on the architects a little of that interest which it lavishes upon painters, sculptors, musicians, and writers. In the same way as the Muses are sisters, are not the Arts brothers?

It is by reason of this fraternity that I make appeal to those who wield that marvellous instrument of publicity—the Pen!

In conclusion I would say that the vital interest of the country, our dignity as disciples of art as well as the defence of our professional interests, oblige us to rally ourselves incessantly, courageously, without relaxing,

into a fraternal union against the fatal tendencies which in the end would render it impossible for architecture, that grand book of tradition, to add marvellous pages to the glorious annals of Belgian art!

12. By Dr. Hermann Muthesius (Berlin).

Art. 1.—It is a common fact that architecture is unpopular, probably the most unpopular of the arts. This is especially evident by comparison with the enormous interest which the public take in works of painting and graphic art.

Art. 2.—But it seems doubtful whether a so-called education of the public in architecture will hit the point of the problem. The present low level of understanding and interest in architecture is probably to be considered as a symptom of the fact that, in our days, architecture itself has lost much of its public importance and value.

Art. 3.—This becomes evident by a comparison of the architecture of our time with that of the great epochs of the past—the Greek, Roman, Mediæval. Architecture was then the leader of all the other arts and crafts; and this was the case because it was the universal art and had to deal with all the constructive and building problems of the time.

Art. 4.—In our days the problems of the engineer, the perfection of our system of locomotion, of our comfort, of our labour-saving machinery, of our tools and instruments, play a more important part than the works of the architects proper, of whose tasks only the laying out of streets and whole cities touches the great problems of our time.

Art. 5.—The engineer, having to fight hard with the urgent problems of our time, is compelled to look straight ahead, and consequently he generally works unbiassed by minor circumstances and considerations. Whereas the architect of to-day, hampered by historical tradition, generally looks backward, and makes his works appear rather works of a past age than works of the present day. The history of architecture of the nineteenth century shows a remarkable falling into archæological tendencies of various and often contradictory kinds, so that true architecture nearly expired, and the result of the architect's work became a mere application of historic details of style.

Art. 6.—Even the architecture of the present day is largely biassed by archæological principles, which is shown (*a*) by the importance still attributed to style (we still build "Romanesque" exhibition halls, "Renaissance" railway stations, &c.); (*b*) by the position retained by a great number of architects towards our old buildings which are still being restored by them in the so-called spirit of a past age; (*c*) by the endeavour, frequently met with, to conserve the character of an old street or square by putting imitations of old buildings next door to the originals.

Art. 7.—The fact that also the architecture of the present day is biassed by archæological tendencies has in several cases aroused the opposition of the well-educated public against the architects, as, for instance, in the question of restoration.

Art. 8.—On the other hand, it is to be noticed that great architects of originality, who rather create modern than archæological works of architecture, have found support and even enthusiasm amongst the less educated classes of the public. Names are omitted, but every country shows examples of what I mean.

Art. 9.—This enthusiasm springs from the same source as the present enthusiasm for the modern art movement in the decorative arts. The reason is in both cases a certain impression on the part of those who participate in it that such architecture has found again the basis of modern feeling and that the archæological masquerade has been dispensed with.

Art. 10.—The stepping in of archæology into the art of building has been the great disaster for the architecture of later centuries, and has caused the decadence of true architectural life. Archæology, high though it be as a science, has nothing to do with living art, and ought to be separated from it most thoroughly.

Art. 11.—By archæology the public has been miseducated, and that detrimental interest in "styles" has been aroused which now proves to be the greatest of all hindrances to grasping the true principles of architecture. Those architects who work still in "styles" foster this fatal state of things, and form a community of mutual support with the public, which renders it more and more difficult to get away from this false course.

Art. 12.—If the public is to be educated in architecture, this can only be done through the means of works of architecture which show a genuine modern feeling, and are impressive by themselves, not by their resemblance to works of past ages. Such works of modern architecture are still exceedingly rare.

Art. 13.—The best means of educating the public is to have more of these and to leave "styles" alone. The so-called education of the public includes, therefore, in the first instance, the education of architects.

So much on the *principles* of the subject; the following remarks refer rather to details.

Art. 14.—The participation of architecture in the annual art exhibitions has not proved a success. The architectural room is generally empty.

Art. 15.—A better scheme would be to exhibit models instead of drawings, as models alone can give an idea of the stereometric effect of a building. Besides, they are attractive in themselves. Architectural drawings, even if perspectives, mostly arouse interest only as graphic works, and are then very often at a disadvantage with the works of graphic art shown in the adjoining rooms.

Art. 16.—A very powerful means of education is literature, as by reading alone a great part of the present public can be influenced in its mind.

Art. 17.—But it is of little value if good information on architecture is only given in professional papers, which is the present state. Professional papers are not in touch with the public, who acquire their information from the daily Press and from magazines. It is therefore urgently necessary that good information should appear in the latter.

Art. 18.—But, alas! the usual writers for papers and magazines are not able to give good information on architecture, being laymen in an architectural sense. It is therefore necessary that competent writers on architecture, who now are chiefly absorbed by professional papers, should devote themselves more to newspapers and magazines.

Art. 19.—Besides the information in the public Press, public lectures, if given by competent men, are a good means of educating the public. Architectural societies should make it their duty to induce universities, university extensions, colleges, schools and societies, to have lectures given on architecture by thoroughly competent lecturers.

Art. 20.—But all means of education by word or writing are useless if they are not inspired by modern spirit, if they are not employed by thoroughly competent men, and if they do not attach themselves to works of a genuine modern character. Though it seems quite safe ground to base art education on works of past ages, it is a common experience that by the superficial way of such instruction a mere romantic interest is aroused which

is less than useless as a factor in architectural education. Moreover, there is plenty of opportunity of education in historic art. What is wanted is to arouse interest in the architecture of the day. An education for problems of our time can only be effected by works of our time.

After the reading of the Papers a discussion ensued, in which Messrs. Albert Kelsey (Philadelphia), Bernhard Felisch (Germany), Hugh Stannus, A.R.C.A., and H. P. Berlage (Amsterdam), took part.

No resolutions on the subject were proposed.

Subject V.—A STATUTORY QUALIFICATION FOR ARCHITECTS.

Saturday Morning, 21st July.—Grafton Galleries.

Chairmen: Professor I. G. Clason (Sweden); Mr. Edwin T. Hall (England).
Hon. Secretaries: E. Chujo (Japan); J. T. Cackett (Northern Architectural Association, England).

1. By J. S. Archibald, Architect, Montreal, Quebec.

The subject is a delicate one for the profession to discuss, as motives can be so misrepresented; but for want of advocates outside the profession all the necessary agitation must come from within. The charge has been made that it is only another species of "trades unionism," but on consideration it will be found that the principles underlying the formation of "trades unions" are wholly different from those which actuate us. The former is purely a movement to regulate the compensation and earning powers of the individual, whilst the latter is a movement to raise the standard of professional practice and to safeguard public interests.

Generally speaking, there are two sides to architecture, viz. the æsthetic and the utilitarian. As regards the latter, especially in its constructional aspect, there can be no difference of opinion as to the necessity for the most careful examination before being permitted to design and erect buildings. The object of an architect's labour is to prepare, generally speaking, for habitation by humanity. Human life has always been looked upon as valuable beyond price and compensation. It is recognised in the practice of medicine and law; why should it not be recognised in the practice of architecture, where requirements are demanded combining science, chemistry, and law?

We are hedged about by legislative enactments which at their root must have emanated from the conviction that the practice of architecture was a responsible one, calling for particular training and study. Architects are compelled to erect buildings under the direct superintendence and dictates of the law. The only inference to draw is that the practice of the profession is of such a nature that the individual cannot throw off all responsibility the moment the contract is complete. The logical sequence would also be that the law would make provision that all who enter into the practice of the profession would be found fully competent to carry out the spirit and dictates of such enactments.

It is obvious that such competence can only be established by a series of examinations. This is not always the most satisfactory method, but for want of a better we needs must adopt it. Such examinations must be all-embracing and wielded by powers beyond the faintest tinge of suspicion, and removed in the public eye from all question of self-interest.

With respect to the æsthetic side of the professional practice the standard of qualification is more difficult to set; but there is a basis which no one should be permitted to evade. We are all influenced to a greater or less extent by our environment. If in such an environment beauty is absent and ugliness predominant, depravity and a low moral condition will usually be found amongst the people. On the other hand beauty is usually accompanied by refinement, a higher state of civilisation, and, as a rule, a higher moral condition amongst the people. It is therefore incumbent upon our legislators to recognise such influences. Such influences have been recognised from time immemorial. Plato has discussed the question fully in his *Republic*, and even in those days he argued that State superintendence should be extended over sculpture and building, "so that they may be prohibited from exhibiting all forms of vice, intemperance, and meanness."

A sense or perception of the beautiful is to be found within the soul of every human being. It should be our pleasure to encourage it at all times, to influence our community with its leaven of goodness, and it should be the duty of the State to recognise such influences and to grant a statutory qualification to prevent influences other than that of the good to be over her people.

The Province of Quebec Association of Architects is the pioneer (on the western side of the Atlantic at any rate) of statutory qualification for architects. This law was founded in 1898 as an amendment to the charter of incorporation. It was granted because it was deemed expedient for the better protection of public interests and in order to enable the public to distinguish between qualified and unqualified architects, and to insure a standard of efficiency in the persons practising the profession, and for the advancement of the art of architecture. This law reads, "No person can take or make use of the name or title 'architect' unless he is recognised under this Act and as a member of the Association." The machinery is provided for the carrying out of a system of examinations and for the enforcing of the law.

2. *The Title and Diploma of Architect.*

By Louis Bonnier (Paris).

[*From the French.*]

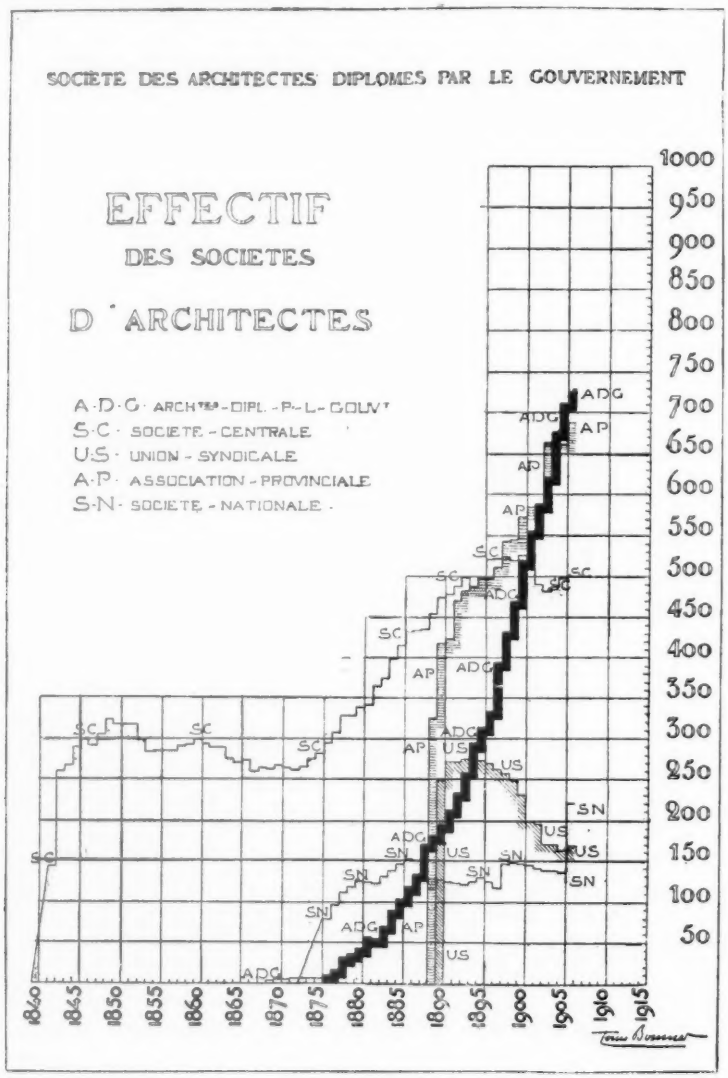
Science is not an individual possession; it is the result renewed over and over again of acquisitions previously made. If certain more favourably gifted individuals, or those who come upon the scene at the precise moment when an idea which has become mature is disclosed to the world, increase this property all of a sudden, and illuminate their epoch by the radiancy of their intellect, then the regularity of its evolution is so much a necessity that the innovators who see too far are often not understood by their contemporaries. In the same manner reactions only succeed in stopping progress for a short time.

In the region of art, where individuality would explain itself more easily, if some artists of the plastic arts seem sometimes to be able to do without teaching, these

exceptions only occur among those who cultivate specially and exclusively one branch of their art, vibrations of light, movements of lines, &c. And even they cannot escape from artistic heredity, from the teachings of their surroundings. Organised societies therefore are right to endeavour to transmit and to increase this intellectual wealth, the acquired results, the raw material for future progress. Thus we have, in art as well as in science, methodical teaching.

In architecture, which is at the same time the outcome of art and of science, more than in any other art, teaching is a necessity. Technical teaching, a deep study of the requirements, a reasoned knowledge of the materials, judicious application of the processes, and artistic teaching, grouping of masses, harmony of lines, taste in details.

These two teachings which form a whole can, it is clearly understood, be theoretical only. They cannot be separated without giving incomplete results—either draughtsmen or builders, but not architects. Not architects: that is to say, not artists, whose mind, formed of logical ideas and of decorative feelings, is ready to undertake any studies, any adaptations, any kind of progress, able to choose from among several solutions proper to satisfy the engineer, the best, that is to say the most harmonious, the most beautiful. If the teaching is necessary for the transmission of the acquired results, it cannot be really efficient and useful unless it be accompanied by a sanction pointing out clearly the person to whom, amongst all others, may be entrusted with perfect safety the fortune of private persons and the budget of the State, the health



of the individuals and the hygiene of the population, the preservation of the art treasures of a country, the improvement of the comfort of family and social life.

This sanction is the diploma.

The diploma which is the consecration of long scholastic studies, preparing the architect for all eventualities, cannot and must not be obligatory in a free country; it is only an indication and, as it has been rightly called, a powerful presumption of artistic and professional capacity. It naturally corresponds with a want which, for a great number of years, has been puzzling the mind of architects, and which forms part of the programme of every Congress. This want has received full and complete satisfaction in France. The facts are there to prove it—they are evident.

The campaign was started as far back as 1840.

Since that remote period the Central Society of French Architects took the initiative, and during more than twenty years, by means of controversies, reports, and steps it fought the good fight until the day when, in 1863, M. Eugène Guillaume obtained from the Government the decree instituting the diploma.

After a period of modesty and obscurity, during which the first possessors of the diploma, without a bond, without influence, without protection, and treated as intruders, were the object of attacks as furious as they were stupid on the part of short-sighted architects, the architects with a diploma formed an association in 1877.

During a great number of years they struggled only to live, to hold on. Little by little their numbers increased. When they had become 200 the hostilities grew less; when they became 500, they were at last recognised.

There are to-day 750 distributed all over France, at the Institute, in all the great State administrations, in those of the provinces, and of the large towns. They constitute special groups in the Colonies and in foreign countries, in Switzerland, in the United States, laureates of the public competitions, propagating, to the best of their endeavours in the general interest and in conformity with their programme, the cult of the high studies of architecture.

In 1912 they will be 1,000; the sketch annexed to this summary shows it distinctly.

This striking development and this uncontested prosperity of the diploma in France show what an imperious want was answered by its creation. We are of opinion that, in the interest of all concerned, it is necessary to surround the title of architect with guarantees and to sanction it by means of the diploma.

3. By Gaston Trélat (Paris).

[From the French.]

Summary.—Diplomas are a good thing in proportion as the studies which they represent magnify and elevate the title of architect to the height which society prescribes in order to understand its aspirations. But they might easily become a cause of deterioration or, what is equivalent, of incapacity to understand anything but the knowledge and applications belonging to a special education. Then a *diploma*, taken as the criterion of every application of art or of useful knowledge, would be the height of human inanity.

Individual efforts are nowadays more necessary than ever in consequence of the movement that one can remark everywhere, and which is of a nature to raise up initiatives on all sides. As the syntheses of the collective interests it is the duty of States to ensure the free expansion of work, and consequently to oppose everything which might resemble a privilege. At a time when knowledge tends to become more general every day, competition ought to be freer than ever. Interests, narrowly understood, often lead men to desire, with selfish blindness, to create small artificial states within the great State which is under the control of the parliamentary delegation. This is a danger to which thinking men have no right to close their eyes. These small artificial states are always causes of disorder in employments. They are calamities both in regard to the development of human intelligence and to the organisation of society. Factitious authorities appear, thanks to these small states, with interests opposed to the collective interest. In their exclusive preoccupations of persons or clans these authorised simulacra could not be equal to the exigencies of contemporary evolution. They are misleading powers which would become obstacles to the requisite rectitude of the efforts which initiatives individually directed would naturally be led to produce.

Conclusion.—When they are confined to being stimulations to work for young people, diplomas are an excellent thing. But they would become detestable if they were to trammel the free activity of the technicist in later life.

The field of action is never opened wide enough to the aptitudes that society comprises. The advanced civilisations of Europe are often a cause of weakness in individual production. To understand this one has only to cast one's eyes on younger peoples where the social organisation encourages individual worth, which might serve as examples to us.

I repeat this opinion: though the diploma is for the student a verification of his efforts, it becomes eventually an incident without influence on the career of a man of worth.

One must go forward without ever looking behind.

4. By Otto Wagner, Imperial and Royal Superintendent of Works; Professor of the Imperial and Royal Academy of the Plastic Arts. (On behalf of the Society of Austrian Architects.)

[From the German.]

Legal Authorisation of the Architects.—On this point we beg to make the following observations. On all sides the endeavour of artists to favour the progress of art is strongly prominent. Nay, they are in fact the only promoters of art, since the public, entirely absorbed as it is in the acquirement of riches and in politics, has lost almost every sentiment for art. It can therefore be understood that the desire makes itself manifest to protect art, and it is thought that this end will be obtained by giving the title of Architect a legal recognition.

This legal backing, as has been shown before, is not possible. But neither is it necessary at all, because it is not the question of admitting legally recognised architects to the construction of artistic buildings, but that only the very best be produced. If, therefore, the State, the country or a city, or its administrations, respectively make use of a senate of art, there is in this way created an artistic control from which it can best be hoped that the desired goal will be reached.

If the architect is given a legal authorisation, it cannot therefore be a question of the artistic capacity of the architect, but an official control can only be admitted with regard to his professional quality. But this control is very easy, since all authorities have their well-organised boards of works which can exercise control when giving their consent for the construction.

The legal process must therefore consist in that the architect by his signature accepts the responsibility for

the plans made by him, and that he covers himself by the contractors of the various parts of the work, who have in their turn to produce the calculations made and revised by them.

The answer to Question V. must therefore be as follows:

The architect has the right to construct any building by the plans made and revised by him if these have been passed by the artistic and technical control.

5. By Robert Walker (Cork).

In calling the attention of the Congress to Subject No. 5 on the programme, it will be convenient to say here that there is parliamentary precedent to be found in the Statute Books of the House in which Registration Bills have passed into Acts with a view to conserving the interests of the professions and the public in their relations each to the other.

Without giving a long list of the professions so dealt with, it will be sufficient to name the cases of solicitors, barristers, physicians, and surgeons. The Medical Act is apposite to the requirements of the Architects' Education and Registration Bill.

The words "statutory qualification for architects" are consonant with the interests and well-being of the communities and peoples throughout His Majesty's vast jurisdiction, from the peasant in his cottage to the dwellers in royal palaces.

It will be seen, therefore, that this subject is in touch with the interests of the whole community, and is so far-reaching in its common interests that it extends to all the countries of the earth.

It is pre-eminently a subject of international interest, and is fittingly placed on the programme of this Congress.

The word "architect" is derived from two Greek words, ἀρχός and τέκτων, and signifies "chief constructor," which would appear to involve complete control and guidance from the inception of the design to its final completion in fitness, strength, and beauty.

The word "qualification" signifies that the architect (or the chief constructor) should be duly qualified to undertake those responsible duties by the acquisition of an irreducible minimum of general and expert knowledge and technical education and equipment, in accordance with a curriculum laid down by the General Council, when appointed by Parliament under the stipulations of a Bill which when it passes becomes law, making compulsory "Statutory Qualification for Architects" by placing the Bill on the Statute Book as the "Architects' Education and Registration Act."

The necessity for such an Act appears to be conceded generally owing to the consideration that has been given to the subject during the past twenty years.

The members of recognised architectural bodies should be registered on their proving their membership, or on verified lists being sent to the Registrar by the Secretaries of those bodies.

The stumbling-block which has chiefly and ostensibly retarded the progress of such a measure for all those years, coupled with apathy, indifference, and jealousies, is precisely the same as that which blocked the Medical Act for thirty years, from 1828 to 1858, namely, that Parliament declined to pass a measure which made no provision for the vested interests of the unqualified men who assumed the functions of medical practitioners, and were accepted by the public in ignorance of their want of expert and technical equipment. It may be possible to come to some arrangement on this matter by way of compromise with the Select Parliamentary Committee.

A time limit of, say, five years may be agreed upon, during which practitioners could prove that they were in practice prior to the passing of the measure.

There appears to be no doubt but that the trend of opinion is in the direction of obtaining statutory qualification for architects, which will protect the members of the profession and the public, in the prescribed parliamentary form of an Education and Registration Act having the short title "Architects Act."

The sooner such a measure is placed on the Statute Book the sooner will the evil complained of disappear. It will not impair the status and privileges, or invade the membership of existing architectural bodies.

The placing of the names of persons having what the Legislature denominates vested rights does not confer the right to membership in any of the existing bodies.

"Statutory qualifications" are qualifications enjoined and required by a curriculum, prepared by a competent authority, made compulsory by statute, and tests applied by competent examining bodies whose functions commence when the competent teaching bodies have completed their work; the results of the tests are then recorded and published in a book called the Register.

When the Bill reaches the Committee stage, memorialists in favour of it and petitioners against it would be heard at length, when clauses may be amended, struck out, or new clauses inserted by agreement. Should the Committee find that the preamble was proved, it would be sent back by them to the House; and if passed it would then become law and be placed on the Statute Book as the "Architects Act."

Want of qualification on the part of persons employed as architects may result in injury to life or health, discomfort, pecuniary loss, lawsuits, embarrassments, and much loss and damage without a remedy.

Any means that can be devised even to tend towards guarding the public against the evils attendant on incompetency will be hailed with satisfaction by the profession and the public alike. Reforms should come from within, and it is clearly the duty of the profession to initiate and work out this movement.

6. By Virgil Nagy (Budapest). (On behalf of the Association of Hungarian Architects and Engineers.)

The enormous quantity of technical work done in our age and the overpowering development of technical arts have brought forward in many countries all over the world, in certain respects, undesirable conditions, because the quantity of work and the wide fields of occupation have caused undesirable competition between well-trained people—in our case architects—and people who are not well-trained. The public, which perhaps all over the world is more or less ignorant in matters of our art, very often thinks that its interests are best, or at least as well, served if the cost of the architect's work is the smallest possible, and, in consequence, it very often spoils a ship for a pennyworth of tar. The result very often is, besides deficiency of art work, badly, unpractically laid-out buildings, much to the loss of private and national wealth. On the other hand, living for the well-educated architect in many cases has become very difficult on account of unsuitable competition.

These unfavourable conditions have resulted in many countries, as in Hungary, in a movement to protect the architect's as well as the public's interest, and the interest of our art, in a similar way to what has been done in the case of solicitors, teachers, physicians, &c., *i.e.* to demand, at least to a certain degree, compulsory qualification for the practice of architecture. The last National Congress of

Hungarian Architects and Engineers have decided to bring forward a motion in favour of legal regulation of *the titles and practices* of engineers, mechanical engineers, and architects.

The Association of Hungarian Architects and Engineers were commissioned by the Congress to prepare a Bill providing for the compulsory qualification and practice in the different technical branches. This has been done. The Bill has been accepted by a majority of the Congress and transferred to the Government, and we hope will soon be brought before Parliament.

According to this Bill, the right of *title* and *practice* of engineers, mechanical engineers, and architects would be reserved to individuals of proper *qualification*, acquired by polytechnic or academic studies; appropriate considerations are prepared, which answer to the conditions of architecture as an art. Only qualified individuals could act as official *experts*, *designers*, and *directors* of buildings of importance.

To assure proper control, to obtain proper evidence, and to repress unsuitable practice, is proposed to be done by autonomic institutions—namely, by constituting as the *Technical Chamber* a legally constituted Union of Engineers, Mechanical Engineers, and Architects.

The Bill, with explanations and part of the discussion, has been published by our Association. It is in Hungarian, but I am sure our Association will answer with pleasure a request to have it translated, in whole or in part, in one of the languages of this Congress.

7. By A. North (Tasmania).

I have been instructed by the Royal Victorian Institute of Architects, to which I belong, to support the proposals made for registration, and in doing so I cannot do better than read the instructions which have been given me: "The following *résumé* of the work of the R.V.I.A. is compiled by resolution of the Council of the Institute. I am directed to forward a copy to you, as a member of the Institute, in order that, when the respective subjects are dealt with in the Congress, you may be able to cite the action of the Institute in its endeavours (*a*) to place the members of the profession upon a legal status by registration, (*b*) to further the education of the architect by university and other teaching, and (*c*) to modernise the building regulations of our cities, in order that iron, steel, and other modern construction may be adopted.

"*Registration.*—The accompanying draft outline Bill was prepared in 1891 by the R.V.I.A. and the general body of practitioners. It was submitted to the Legislative Council in 1892, but was then rejected. It has not been re-introduced since. The need of registration, however, remains as great as ever. During the past fourteen years registration has been made compulsory in many of the professions, and before long it will be necessary for the Institute to move again in this direction, both in the interests of the public and the profession. The demand for registration is shared by all competent members of the profession, whether members of the R.V.I.A. or not.

"*Education.*—In addition to awarding prizes for the best work done yearly in the building construction and architectural classes at the Working Men's College, Melbourne, the Council arranges annually R.V.I.A. competitions for subjects in design, measured work, and sketching, and awards medals and substantial money prizes and certificates for the best work in each division. This year, however, the new regulations for Diploma of Architecture at the Melbourne University have been issued (a copy being forwarded to you herewith). The scheme was prepared by a joint committee of the Faculty of Engineering at the University and by the Council of the R.V.I.A. Mr. A. Henderson (one of our past Presidents) has been appointed lecturer on the subject, and Mr. Percy Oakden (also past President) represents the Institute upon the Faculty of Engineering for 1906. The work is thus directly in touch with the Institute.

"*Modern Methods of Construction.*—In order that modern methods of construction may be applicable to our larger cities, the Institute is (at the request of the Melbourne City Council) preparing a list of suggestions for improving the building by-laws of the city. Copies of the building regulations of the principal cities in Great Britain and America have been courteously forwarded on application for our guidance, and the first interim report was forwarded to the City Council last September. We ask that provision be made in the revised by-laws for the erection of iron and steel structures and for buidings composed wholly or in part of reinforced concrete. We further request that in the new regulations a clause be inserted whereby any method of construction in use in the cities referred to in an annexed schedule, although such construction be not provided for in the Melbourne Building Regulations, may, with the sanction of the official referees, be adopted in Melbourne. It will necessarily be some time before the amendment of the proposed regulations can be effected, as the work of revision is by no means an easy task.—Signed, John Nittle, *Hon. Secretary.*"

Although we have failed as yet to obtain legislation in Australia on the subject of registration, we have been successful in obtaining a Chair of Architecture at the Melbourne University, which was an official recognition by the Government of architecture. So far as testimony is concerned, the Victorian Institute is absolutely unanimous in favour of registration.

Resolution of the Congress.

The subject was discussed by MM. Augustin Rey (France), George Hubbard, F.S.A., Robert Walker (Cork), Ellis Marsland, W. W. Thomas, C. A. Cowper (Melbourne), G. A. T. Middleton, D. Morgan (Cardiff), F. G. Green (Cape Colony).

On the motion of Mr. Ellis Marsland, seconded by Mr. W. W. Thomas (England), it was resolved:

That this Congress considers it desirable in the interests of the public of all nations, and of the profession of Architecture, that all practitioners should have a statutory qualification.

SUBJECT VI.—THE ARCHITECT-CRAFTSMAN: HOW FAR SHOULD THE ARCHITECT RECEIVE THE THEORETICAL AND PRACTICAL TRAINING OF A CRAFTSMAN?

Wednesday Morning, 18th July.—Grafton Galleries.

Chairmen: Herr Otto Wagner (Austria); R. S. Balfour (England).
Hon. Secretaries: H. O. Tarbolton (Scotland); Gustave Wickman (Sweden).

1. *Architecture and Craftsmanship.*

By REGINALD BLOMFIELD, R.A.

Synopsis.

Object.—To ascertain how far craftsmanship is necessary to an architect: (1) by tracing the development of the idea of the architect craftsman; (2) by consideration of the function of architecture.

The practice of the earlier Renaissance, specialisation of the architect. Draughtsman's designs at end of eighteenth century. Loss of tradition. Sham mediævalism. The last stand of classic. The great exhibition of 1851. The pre-Raphaelite brotherhood not a purely artistic movement. Their idea of reforming architecture by the study of nature. Mr. Ruskin. William Morris: his view of architecture, his passion for craftsmanship; his hatred of classic. The Arts and Crafts Society: the value of its work in regard to the minor arts: neglect of architecture. The pre-Raphaelites and their successors conceived of architecture not as the art of building, but as the ornamentation of buildings.

The Province of Architecture.—Buildings the only "nature" it can study. Its appeal by disciplined design, its analogy with music, space composition. The architectonic art. This view repudiated by Morris. The anarchy among the crafts; and l'Art Nouveau, the result of the withdrawal of the crafts from the control of architecture. Need of thorough training in technique for architectural students. Need for architects to resist the tendency to disregard architecture and absorb it in the crafts.

2. *The Relation of Modern Architecture to Craftsmanship.*

By W. R. LETHABY.

The practice of modern architectural design is based on custom. In some countries there seems to be a more general agreement than in others, and in the former there is a nearer approach to the existence of style. Beyond this, what are the possibilities by which modern architecture may enter on a course of development, and how can we attain to reality in building?

The styles of the past were shaped by a growing mastery of craftsmanship, and only this will produce art akin to the old, an art which is discovered rather than willed. The architect's store of forms is for the most part degraded memories of the discoveries made by ancient craftsmen. Whence is new energy in modern architecture to be derived? In part it may come from the investigations of science, but even so it will require a resourceful craftsmanship to deal with the new material.

At present the architectural profession is isolated from workmanship, and is thus imprisoned within a small sphere of ideas. Architects have aimed at bringing back the *appearance* of masterly craftsmanship, but this outward appearance has no vitalising force.

A closer contact with labour may mean at least three things. We need, first, to be in closer touch with the executants of our buildings, and to be anxious to learn from them what they think is good work. In the second place, it may mean the acceptance by the scientifically trained directing architect of more help from independent workmen of a high order, painters, sculptors, metal-workers, modellers, and the like, while giving up the commonplaces of office-designed ornament. And, thirdly, it may mean the practical training of architects themselves. This idea is liable to two misconceptions; as if it were proposed that the architect engaged on important work should make his own mortar, or as if the claim might be satisfied by receiving lessons in enamelling or wood-carving. The crafts essential to an architect, of course, are masonry and carpentry, while they remain the principal factors in construction, and, so understood, craftsmanship should form the basis of architectural education. The student should cut stone, frame up wood, and handle bricks. Often, of course, he could not afford much time for this, but even a month's practice with materials and tools would be better than nothing.

A short course should form a part of the education of all students, but some would probably become much more interested in this side of things, and could follow it out further. Thus we might train architects of varying capacities for various requirements. It is the mistake of all systems to form men of one pattern. However desirable it may be to train some men to the highest degree of academical skill, these are best fitted to deal with the complicated problems of practice in a big city, while the humbler works of the country require equal devotion, but of a different kind. A basis of craftsmanship in architectural education should open out channels for diversities of gifts which may correspond with the diversities of requirement.

3. By FR. VAN GOBBELSCHROY. (On behalf of the Central Society of Architecture of Belgium.)

[*From the French.*]

The importance of the mandate of the architect is great, because it expects from him extensive knowledge, without which the artist cannot consider himself to be at the height of his mission.

The great drawback from which the profession suffers is due to the fact that the title of "architect" may be assumed by persons who have neither obtained a diploma nor received a special education, and that this unjustifiable tolerance places in the hands of inexperienced persons an art which they will never be able to understand, and still less to practise.

All who desire to make serious study of architecture should be made to acquire the large amount of indispensable knowledge necessary to enable them to carry out a project.

The education should be more complete, because to the art of making ingenious plans the architect must add, not only the qualities required to have them carried out as a whole, but also those which the contractor and his sub-agents must possess.

The architect must be able to judge, as a real expert,

of the most minute details of the construction—in a word, he should possess the technical knowledge of all the trades which he employs, and this to the extent of being in a position to discover, and to have put right without hesitation, any part of the work badly done. And in the presence of this vast knowledge, which one should expect him to possess, there is no doubt that the architect would recover the prestige he always used to exercise in the building industry.

Besides, it must be stated that this perfect knowledge of the technical part of the crafts which we ask the architect to possess is not an innovation. In fact, many architects of the Middle Ages, and men of science, such as Galileo, Newton, Leibnitz, Stephenson, and others, were, at the same time, manual labourers. They knew how to manipulate matter in order to put their ideas into practice.

Of course it is not necessary that the technical knowledge of the architect should enable him to handle perfectly the tools of all the crafts—this would be useless—but it is necessary that his knowledge should enable him to carry out everything in accordance with the rules of art; and for this purpose it is necessary that he should himself, within the limits of possibility, have practised under the eye of an experienced master all the kinds of work which later on he will have to carry out in his projects.

Besides, this practical knowledge will enable him, with the aid of the superior education he has received, to contribute to a rational and practical improvement of the methods of execution adopted, and it will have not only a direct effect upon his authority, as we have already said, but also on the interests of the proprietors, of the substantial contractors, and of the workmen. For, as one would see disappear, for the honour of the profession, that species of so-called colleague, we should also witness the diminution of the credit of those not over-scrupulous contractors who not only injure the interests of their clients, but who frequently endanger the lives of many workmen.

Thus far is it that the architect—that is to say, the man who surveys buildings in the way of construction according to the rules of art, who in a word, makes the plans and estimates—this is how far the master of the work, as he was so properly called during the Middle Ages, must be an artisan.

To sum up, the architect must be able to work well himself in order to be able to command well.

This education, which would form part of the whole, would not require more than two years of supplementary studies, because it would only be a question of extending in a practical and convenient way a known programme.

The present programme followed for the studies of the architect could remain, with a certain revising, and there would have to be added to it that which is wanting for the training of the artisan.

In imitation of what is being done in Germany and in Austria, we should thus have academies where technical engineers for the building industry would be educated, with the advantage that these special studies would be imposed, not upon manual labourers, but upon individuals who would already have gone through the superior studies of architecture. With our neighbours these studies have for their aim to form technical engineers who have a perfect knowledge of the materials; the students learn there to distinguish between materials of good and of bad quality, and to render to themselves an account of their qualities, in order to be able to make a judicious choice. They study there the handling and the working of the tools used by the workman and by the contractor; in short, they carry out all the working operations which may occur, making use of all the special tools which have to be used in the finishing of any given work.

The complete school for architectural education which we should like to see created in Belgium would necessitate, as we have already said, the combination of the principles adopted in Germany and in Austria with artistic and scientific education, but basing nevertheless the technical teaching upon that of the English technical schools, which are essentially practical, and in which the oral lessons and the manual work are taught by the methods which develop in the pupil the spirit of investigation, determination, and initiative.

This summary does not allow us to enter into details of the programme of the lessons, but it cannot be denied that the result of the elements recommended for adoption in a programme of studies would be, after the lapse of a few years, the decisive element in the ever-growing competition among architects, because it would contribute to make disappear mere routine and empiricism, which put into a real inferiority a large number of our young colleagues.

Being given the superior and practical tendency of the studies at such a school, we are convinced that the young artists, the owners of a diploma for having finished their studies, would have capacities which would be appreciated by the artistic, scientific, and industrial world.

We indulge the hope that our work will contribute some elements to the solution of the very important question as to what extent the architect must be an artisan, and it will have shown the undeniable necessity of a complete education, which must always be kept at the level of progress, with a view to the improvement of the career of an architect and the recognition of its value, its rights, and its authority.

4. By Otto Wagner, Imperial and Royal Superintendent of Works; Professor of the Imperial and Royal Academy of the Plastic Arts. (On behalf of the Society of Austrian Architects.)

[*From the German.*]

Concerning this question we beg to make the following observations:

Reference has repeatedly been made in our previous communications to the scientific education of the architect, and stress has been laid on the fact that he has to learn such a vast amount of facts, and that, for the reasons given in the beginning, this learning cannot embrace everything. In going through the technical studies of the architect, what is required is a good grounding, which will enable him to acquire what is further needed in the course of his subsequent period of activity.

The actual work of the architect, and a number of artistic matters, such as the cultivation of the allied arts of painting and sculpture, the keeping pace with the professional literature, &c., cannot fail to induce him to be very economic with the time he is able to give to these occupations, and, moreover, he will have to reserve a very considerable part of his time to the supervision of the works to be carried out by him. It will therefore not be wrong to sustain that these matters can hardly receive much attention, from sheer lack of time. To this must be added the loss of time which is caused by the fact that the desire to create, and consequently the capacity to create, are faculties which the artist cannot command at all times.

A further accumulation of work by learning one or more trades (to learn them all is utterly out of the question) certainly exceeds that measure of time which the architect has at his disposal to devote to such work. If besides it is taken into consideration that handicraft of the kind in question sometimes requires considerable

physical strength, and may therefore be injurious to the steadiness and the fine touch of the hand, it is to be discountenanced to penetrate so far into the manual work of the architect's craftsmen. The knowledge how any given part of a building is to be made belongs to the sphere of practice, which the architect will acquire in the course of his career all the more readily because his innate gift of invention will serve him as an auxiliary.

The question under consideration, Number VI, can therefore be correctly answered in the sense *that the architect must know in a theoretical relation, and with regard to intuition, every trade and the qualities of the materials which he uses in his constructions, but that it is not necessary that he should become proficient in the manual skill belonging to the handicraft.*

5. By Gaston Trélat (Paris).

[*From the French.*]

Summary.—The theoretical and practical education of artisans can certainly become an abundant source of development in art. But then it must be judiciously led. Otherwise it would have dangers which would soon show themselves in the work produced.

I wish to say at once that it ought to be consistent with the direction which the professional life takes. And this latter entails the general affinity with all the trades which contribute to the execution of the architect's works. From this results a real *theoretical and practical* education, which latter embodies itself in an extension of *conscientiousness* in the artist. Hence a vivacity of spirit which shows itself in the particular character of the elements conducing to the harmony of the *ensemble*, to which they remain subordinate—without which would be exceeded the taste and proportion taught us by a certain *philosophy* drawn from manners of arrangement to which matter is subject. As can be seen it is an education to which one consecrates one's life.

But for that there would be no reason to rely on an initiation from the commencement of life. Before all else, it must endeavour to show the disadvantages of making the different elements that the variety of trades represent dominate too much in a work. For this would expose one to a cause of incongruities which should be avoided in architectural conception and execution. Certain masters, whose memory is surrounded with the respect which is due to them for the harmony of their lives, and certain schools could supply evidence of this, if the thing needed to be supported by material proofs. But this is not the case.

Therefore, in order to prevent confusion in the mind, this education will be carried on by the fact of the career itself. For the architect it will result exclusively from the experience he will gain from all the trades contributing to the execution of his buildings.

Conclusion.—The education of an architect-artisan is sufficiently gained by the routine of a life practically absorbed in the applications of the art.

With regard to a theoretical and practical education at the commencement of the career, the advantages would in no way make up for the time spent; and the disadvantages of it would predominate.

6. By Robert Lesage (Paris).

[*From the French.*]

Summary of the Question.

We thought that under the heading "The Architect-Craftsman" the organisers of the Congress proposed the study of the question of "the professional training" of the architect, of the technical teaching completing the general teaching, and in particular that of the art of architecture.

Our colleague M. Poupinel will treat of the history of this question in the Congress, whilst in this report we shall study a programme of technical teaching of the various building trades.

We shall divide the report into two chapters:

1. The general programme.
2. In particular, the programme from the French point of view.

Part I.—THE GENERAL PROGRAMME.

What has been done in Europe.

1. By the State.
2. By private initiative.

In particular, what has been done in France.

For the building trades the State has organised workshops and professional schools in which *workmen only* are trained; it has not yet created any technical school for the training of *chiefs of enterprise, directors of work, contractors, and architects.*

In this direction private enterprise has already produced, enumerating them in chronological order:

The Trélat School.

The courses of lectures of the philotechnic, philomatic, polytechnic, and other associations.

The courses of lectures by M. de Baudot at the Trocadéro.

The courses of lectures of the Syndical Chambers.

The School of Public Works.

The school of construction of buildings.

The school of mutual teaching of arts.

The Characteristic Features of these Schools and Lectures: their Insufficiency.

Programme of a School of Technical Teaching for Architects and Contractors.

Method of Teaching:

The lessons;

The exercises of application;

The practical works (workshops, laboratories, *visits* to edifices, factories, workshops, building yards).

The courses of lessons would include the study of the work from the point of view of its practical execution, and from the point of view of the settlement of accounts.

The teacher, in the analysis which he would make of the work, would treat separately: *The materials, the tools, the machines, the workmen, the organs.* He would deduce from the knowledge of the resources which the materials offer, from the means offered by the tools, some general principles which must be the guides of the builders for the logical and economic composition of the various parts. The teacher would also make the pupils conversant with the new industrial products; he would study the catalogues with them and discuss the value of the various brands.

The exercises of application.—To the technical lessons on construction would correspond some exercises in detail drawings calculated as if they had to be practically carried out; to the lessons of measurement and verification would correspond exercises of bookkeeping, making out estimates, memoranda, drawings to accompany memoranda, &c.

The practical work would consist in the handling of

the various tools, some manual work, testing of materials, the making-out of reports of all kinds, and even surveys.

To this school a library and a museum would be annexed.

Relations between the Technical Schools and the Schools of Architecture.

Should technical teaching be given at the school of Architecture and at the Fine Art school, or should it be given in a school absolutely independent of these?

It is impossible to answer this question in a general manner. The organisation of a technical school for the crafts of the building trade, *complementary* to the schools of architecture, will of necessity work in unison with them.

To each special case will correspond a special and adequate solution.

The same answer must be made to the question: Is the technical teaching to precede, to accompany, or to follow the teaching of the art of architecture?

II.—THE PROGRAMME FROM THE FRENCH POINT OF VIEW.

Short Summary of the Official Teaching of Architecture in France.

1. L'Ecole des Beaux-Arts.
2. The regional Schools of Architecture.
3. The regional Schools of Fine Arts.

The characteristic Features of their Teaching, the Aims they Pursue, what they Neglect, and Why they Neglect it.

L'Ecole des Beaux-Arts is not a school of architecture, but a *special school of the Fine Arts* in which the art of architecture occupies a place similar to those held by the arts of painting, of sculpture and of engraving. The aim of the Ecole des Beaux-Arts is to train the mind of the architect, to put him towards art, and not to teach him a trade, or to prepare him for the exercise of his profession. It chooses its pupils by competition, and only admits men of superior intelligence and aptitude. The results which it has obtained force it to do this; it dominates all that is produced in architecture in France; it even makes its influence felt in other countries in the South of Europe, and especially in America. The technical instruction of the architect, the preparation of the practical architect for the part he is to act in society, does not come within its province.

The examinations and competitions in mathematics and in construction which it imposes on its students from the very beginning of their studies of art have no other motive than to eliminate at once those who would be absolutely unfit for the study of the sciences of the building art, and consequently to become true masters of work. But the technical knowledge the pupils must go elsewhere to acquire, and they must, above all, obtain it from experience in the building yards.

It is now beyond any doubt that this instruction left to the chance of experience should be given in a methodical manner, and give rise to a regular course of teaching: in this way our architects would undoubtedly be sooner and better prepared to defend the interests of which they are in charge.

This idea has been the cause of private undertakings which we have just mentioned; but in France the State has not yet done anything in this direction.

What can be done in France.

On the occasion of previous Congresses M. J. J. Pillet has already pointed out the programme for such a school: for him the technical teaching would have to form the *secondary teaching* of architecture, the Ecole des Beaux-Arts having to give the *superior teaching* only accessible to a very select few.

At the time when this project was submitted it might have been easily put into practice by means of creating regional schools of architecture, absolutely independent, and the property of the provinces. This would have been a good piece of decentralisation.

In our days the circumstances are altered. By the initiative of M. J. Guadet, the French Government has just established in the provinces some regional schools which are branches of the Ecole des Beaux-Arts. The same courses of lessons, the same examinations, the same exercises, are made there at the same time as in Paris, where the work of the students is sent and judged by the ordinary jury of the Ecole des Beaux-Arts. These schools give the same diploma as the school in Paris.

In the presence of this expansion of the Ecole des Beaux-Arts there only appears to remain one solution to the problem of the technical teaching, viz. the creation, side by side with these schools, of *some schools of application for practical building*, the teaching in which would be absolutely specialised, and which, in connection with the Ecole des Beaux-Arts, would be in an absolutely analogous position to that occupied by the schools of application for artillery, the military engineers, the mines, the bridges and roads, &c., in connection with the Ecole Polytechnique.

Like these latter they would admit four categories of students:

1. The students of architecture, former pupils of the superior class of the Ecole des Beaux-Arts.
2. The day students admitted by way of competition.
3. The students from foreign countries.
4. The free students attending the classes.

The programme for their courses of lessons would be the one we have indicated just now. Each of them would be taught, under the supervision of an experienced architect with diploma, by assistant teachers from among contractors, artisans, and accountants.

The duration of the studies should not exceed two years. The lessons would be arranged in such a manner that the students could attend them while they are preparing for their final competition and for their diploma. The lessons could be given exclusively during the forenoon. The practical exercises would keep the students busy during three months of the year; for instance, from May to July.

To conclude, we beg to propose the following resolution:

This Congress, considering that the architect, the master of the works, having under his immediate direction workmen and artisans of the most varied bodies of the State, and utilising the services of the most varied industries, has no means of acquiring in each of these trades and in each of these industries the complete knowledge of a specialist; considering that there exist already in the majority of European countries training schools for artisans, schools for practical application and laboratories for engineers, where specialists are trained, expresses the desire that there should be created *specially for the architects* and for the *general contractors* schools in which, in the limited space of two years, they could acquire in a general but exact manner the technical part of the various trades and industries of the building trade, without claiming to practise these trades and industries. It also expresses the wish that between these schools international and continuous relations may be established.

7. By J. M. Poupinel.

[*Extract, from the French.*]

To avoid waste of time I will restrict myself to telling you what conclusions, in my opinion, are to be drawn from the work of our predecessors.

In art, as well as in science, we shall never be able to come to the end of our experience. So many artistic, scientific, and practical problems has the architect to solve that several lives would be necessary. Madame de Sévigné has written:—"I always say that if I could only live for two hundred years I should become the most admirable person in the world."

It is time, we think, that an architect student should become deeply imbued with all the necessary sciences and put them in practice. It may also be stated that, in spite of the progress of the sciences of medicine and hygiene, present and future generations will have no such longevity, and we should perhaps do well to limit our ambition and, in the interest of our young colleagues and successors, to restrict our demand and to formulate it thus without losing ourselves in details or complicated programmes: "Let the architect receive practical summary teaching, allowing him to make the best use of the human forces, of the material resources placed at his disposal by nature and labour."

Resolution of the Congress.

The discussion was contributed to by Dr. Joseph Cuypers (Amsterdam), Mr. Maurice B. Adams, Professor V. Nagy (Budapest), Professor Lethaby, Messrs. Reginald Blomfield, A.R.A., C. Walker (Boston, U.S.A.), H. P. G. Maule, and the motion appended to M. Robert Lesage's Paper (p. li), having with his consent been modified by Professor Nagy, was seconded by Dr. Cuypers, and carried unanimously as follows:

That this Congress, considering that the architect, the master of the works, having under his immediate direction workmen and artisans of the most varied bodies of the State, and utilising the services of the most varied industries, has no means of acquiring in each of these trades and in each of these industries the complete knowledge of a specialist, expresses the desire that the opportunity should be given to architectural students to acquire in a general but exact manner the technical part of the various trades and industries of the building trades without claiming to practise these trades and industries. It also expresses the wish that between these schools international and continuous relations may be established.

Subject VII.—THE PLANNING AND LAYING-OUT OF STREETS AND OPEN SPACES.

Wednesday Evening, 18th July.—Grafton Galleries.

Chairmen: Sir Wm. Emerson (England) and M. Ch. Buls (Belgium).
Hon. Secretary: Mr. Perkins Pick (England).

1. By Ch. Buls, Hon. President of the Société Centrale d'Architecture de Belgique. (On behalf of the Société Centrale d'Architecture de Belgique.)

[*From the French.*]

If it is desired to lay down the rules to be followed for the creation of streets and squares, the following three hypotheses must be considered:—

First, an entirely new town to be founded. This is a rare occurrence in Europe; an instance of it is Zeebrugge in Belgium.

Secondly, a quarter of an old town to be transformed into a modern quarter. In this case it is necessary to leave untouched the picturesque aspect of the quarter, to preserve the historical monuments, while endeavouring at the same time to satisfy modern requirements.

Thirdly: a new suburb to add to an old town. Establish the plan of the principal directions of circulation, adapt it to the topography of the place, determine the character of the quarter according to its destination: *i.e.* whether to be of a commercial, industrial, administrative, popular, universitary, middle-class or aristocratic character.

Servitudes to be established to preserve to it the character it is intended to have. Expropriation by zones or participation of the owners of the land in the management expenses.

Forms of the Streets.—Straight or almost straight principal arteries; sinuous secondary streets. The straight streets must not be too long; after every thousand metres they must be deviated or end in a monument.

The squares arranged in these streets must not be circular, but oval. They can besides be varied by not giving a uniform width to the whole street.

Intersection of the Streets.—Avoid converging the circulation to a single point; it must, on the contrary, be distributed over the whole town.

Cross-shaped intersections should be avoided.

Open Spaces.—In ancient times the public squares were the forum as the political centre, and the market-place as the commercial centre. In the North, in the Middle Ages, there was the open space in front of the church and the large market place in front of the town-hall.

1. *The squares for circulation.*—The star-shaped squares are to be condemned: they lead to congestion in the circulation and form a too cut-up picture.

The streets must end in the corners of the squares.

2. *Markets.*—The centre of the market-place must be free; the streets leading to it must not be numerous, and must end in the shape of turbine paddles.

3. *Garages.*—Squares outside the railway stations; there the circulation must be divided by open spaces, fountains, and statues. Towards the town there should be a monumental entrance. Within the town spaces must be reserved for cab-stands.

4. *Ornamental Squares.*—Squares planted with trees. They can be made of any shape.

5. *Monumental Squares.*—Squares created to produce an artistic effect.

(*a*) Proportions of the squares.—The height of the houses should be in harmonic proportion with the dimensions of the squares. Rules established by M. H. Martens.

(*b*) Shape of the squares.—Rectangular ones in the proportion of 1-3, trapezoidal and triangular ones. Circu-

lar and octagonal shapes to be condemned. Oval shape admissible.

(*c*) Framing of the squares to be recommended; dissimulate their openings by grates, arcades, &c. Streets opening into them in turbine-paddle shapes.

(*d*) Grouping of the squares produces a picturesque effect. These squares may surround an edifice.

(*e*) Decoration of squares. Sometimes symmetrical, but as a rule the absence of symmetry is preferable. It is better not to place the statues and fountains in the centre of the square.

(*f*) Levelling of the squares. The concave surface is to be preferred for æsthetic and practical reasons.

Conclusions.

The principles which we have just exposed are the result of the research of practical means which can make a modern town comfortable and hygienic, and impart to it a beauty which renders a sojourn in it pleasant.

A town must not only be a commercial store and an industrial factory, but also a home for human beings.

Since the towns are no longer formed by the slow increase of centuries, they have lost their picturesque charm and their national character.

To the unconscious work of the builder of ancient times must be substituted the conscious work of the modern builder. The mission of our town architects must therefore be to adorn the towns with a new beauty, the elements of which will be furnished by the wants of a heavy traffic, of a healthy life, by æsthetic principles, derived from the study of the laws of artistic enjoyment.

Town builders, trustees, and architects must be inspired by the fine verse of Terence:

> Homo sum, et humani nihil a me alienum puto!
> (I am a man, and no human feeling is indifferent to me!)

2. Summary of Report by M. Eugène Hénard, Architecte diplômé par le Gouvernement, Paris.

[*From the French.*]

Definition of the various kinds of locomotion in the large towns. Household circulation, professional circulation, cheap circulation, general circulation, holiday circulation, and exceptional popular circulation. Corresponding ways of circulation and width of the streets. Necessity of increasing their width on behalf of motorism. General distribution of the net of public thoroughfares. Geometrical distribution of the new towns. Rectangular system, radiary system, mixed system. Insufficiency of these systems. Search for a principle for laying down the net. Comparative study and plans reduced to the same scale of the four large capitals, London, Berlin, Moscow, and Paris.

(Plate I.) Description of the plan of Berlin. Theoretical idea of this plan (Plate II.). Description and theoretical idea of the plan of London. Description and theoretical idea of the plan of Moscow. New notion about the perimeter of radiation drawn from the comparison of these plans. Description and theoretical scheme of the plan of Paris. Insufficiency of the radiating streets of Paris. Idea of what a modern town must be. Advantages which men must find in the large towns. General distribution of a large town. Centre of activity, centre of business. Periphery of dwelling-houses. Consequences from the point of view of the ways of circulation. Circulatory net analogous to that of a living organism. Necessity of directing the streets towards a closed uniting centre or perimeter of radiation, making the central nucleus less congested. Abnormal situation of the present public streets in the large European towns in consequence of their business development. Necessity for widening the too narrow streets of the central nucleus. Presence of the most ancient historical monuments in this centre. The duty of leaving them untouched. Inconvenience of tracing in a straight line the new streets, if it is too strictly adhered to. Usefulness and beauty of spacious or winding streets.

The open spaces, parks, or gardens. Respiratory organs of the large towns. Objections of the speculators. Usefulness of parks for the education of children. Æsthetic influence of the parks and gardens. Comparative studies of the parks and gardens of the four large cities, London, Berlin, Moscow, and Paris. Total surface of the agglomeration built over, population and surface of the interior and exterior parks in those four large cities. Usefulness of the outside parks. Necessity of the interior parks. Comparative plans of the interior parks (Plate III.). Difficulty of the comparison. Selection of a common surface of comparison. Surfaces of the parks and open spaces of each of those large towns compared with their area. Superiority of London. Diminution of the open spaces in Paris. Reason for this diminution. Measures to be taken by the municipalities to remedy it. Proportion to be observed between the open spaces and the areas covered with buildings. Good and bad distribution of the parks and gardens. Idea of the garden cities. Advantages and drawbacks of this system. Means of rendering the clusters of houses less compact. New type of boulevards, called *à rédans*. Formula of the boulevard and its description. Plan and perspective of a *boulevard à rédans* (Plates IV. and V.). Its advantages from the hygienic point of view of the houses. Comparative plan of a fragment of a *boulevard à rédans*, and of part of an ordinary boulevard from the point of view of the utilisation of the land (Plate VI.).

Application of the foregoing theories to the study of the transformation of Paris. Present defects of the plan of Paris. Project of the proposed distribution (Plate VII.) and central nucleus. The new system of the eighteen radiating streets. New streets and old streets utilised. Creation of new parks. Distribution of these parks. The twelve peripheric parks put into communication with each other by the grand circle of the *boulevard à rédans*. Estimate of cost. Delay necessary for its execution.

Conclusion.

Usefulness of the putting together and comparing the graphic documents of the large towns. Proposal by Sir Edwin Cornwall to assemble a Congress of the capitals. The part which the architects could play in this Congress. Proposition to constitute by a uniform method, and with plans reduced to the same scale, the technical documents of all the large cities.

3. By B. Polles y Vivó, J. Majó y Ribós, M. Bertrand de Quintana.

[*From the French.*]

In laying out open spaces account should be taken of various circumstances, those especially which are attendant on the climate of the locality, though varying according to latitude, altitude, direction of dominant winds, and the greater or less distance from the sea and gr at rivers, the position of neighbouring mountains, frequency of rains, nature of soil, &c.

Of all these circumstances, those which have a preponderating influence are the direction of the dominant winds and the latitude.

What evidently demonstrates the importance of the

direction of the dominant winds is the position of edifices included in the category of insanitary buildings, which, on account of the many emanations affecting the atmosphere, should not be so situated that the currents of air may carry these insanitary emanations into the open spaces of a city, thus converting into a focus of infection the air which our dwellings receive from outside.

In consequence of this, one ought to study conscientiously the situation of a cemetery, a crematorium, an establishment for the filtration of infected water coming from a system of sewers, a hospital, a lazaretto, certain industries, &c.

With regard to the latitude, or distance from the equator, and setting aside the differences of temperature, consequent on the greater or less distance from the poles, and following the geographical points which are under consideration, one of the most important factors in the solution of the problem, and one on which we ought to fix our attention, is the consideration of the angle formed by the solar rays with the plane of the horizon of each locality, an angle which diminishes as the latitude increases.

According to the reports of the International Congresses of Tuberculosis, and of Salubrity and Hygiene, held recently at Paris, it cannot be doubted that one of the essential points to be secured is to place the dwelling in hygienic conditions, and that its façades should be so exposed as to receive the rays of the sun and pure air for as long a time as possible. To obtain this result it is obvious that we ought to orientate the streets, determine their width, and fix the height of houses, so that the access of the sun's rays should be assured.

As our limited scope does not permit us to trace geographically the course of the solar rays for each of the latitudes corresponding to each degree (a method which would give a precise idea of the matter), it will be enough for us to consider the distinctive latitudes corresponding to the equator, latitude 0°; the tropics, 23° 27′; an intermediary point, for instance Madrid, 40°; the polar circles 66° 33′; the poles 90°; to demonstrate clearly that the maximum angles which the solar ray corresponding to twelve o'clock, that is to say, the hour at which the sun passes over the meridian of the locality, forms with the plane of the horizon at the time of the summer solstice, the equinoxes, and the winter solstice are the following for the said latitudes:

	Latitude	Summer Solstice	Equinoxes	Winter Solstice
	° ′	° ′	° ′	° ′
Equator	0 0	113 27	90 0	66 33
Tropics	23 27	90 0	63 33	41 33
Madrid	40 0	73 27	50 0	26 33
Polar Circle	61 33	46 54	23 27	0 0
Poles	90 0	23 27	0 0	23 27

From the preceding it is evident that the various open spaces for each city, streets, squares, promenades, &c., and those by analogy reserved as courtyards to facilitate the access of air and light to houses, ought to increase in breadth as the latitude of the locality increases, whilst the heights of the houses ought to lessen as the latitude increases; in other terms, to avoid one façade casting a shadow upon another, the breadth of the streets must increase proportionately with the latitude of the locality, and the heights of the houses must lessen in the same proportion.

To give to the subject we have just sketched all the development that it deserves would take a volume filled with scientific and learned explanations, and as these notes are intended for an audience composed of experts we would like to avoid falling into this error, and we will conclude our remarks on the portion of the hygienic problem intimately allied with the title of the theme we are discussing, with the following conclusions:

1. That the means of communication in cities should be laid out so that in no case should they serve as a canal to conduct the impurities coming from unhealthy industries, which necessarily exist in all centres of population; that is to say, that strict care must be taken that the situation of these buildings be fixed in such a way that the dominating winds can never carry into inhabited localities the unhealthy emanations from them.
2. That the dimensions of open spaces in a city should be subordinate to the density of the population as well as to the latitude; in other words, the more populous a city the greater should be the area of its open spaces; a condition which can be obtained through the means of communication and the courtyards belonging to houses. Considering besides that the sun is essentially the purifying element, in order to obtain its presence for the longest time possible in the fronts of buildings it is necessary to increase the area of open spaces and to diminish the height of constructions as the latitude of a city increases.

4. By Dr. J. Stübben, Berlin.

[From the German.]

I. Planning of Streets.

Traffic.

The direction and width of streets depend on the claims of the traffic to be accommodated. Traffic must everywhere and in every direction find a clear view and an unimpeded path. In main thoroughfares the width desirable may be 50 metres or more; in by-streets, where the traffic is solely for the service of the residents, the width may be reduced to 8 metres. All intermediate widths depend on the circumstances of each case.

The gradients of streets should be as flat as possible. In level districts gradients of more than 1 in 70 should be avoided as far as may be, because they interfere with the asphalting of the road surface. In hilly districts gradients up to 1 in 20 are permissible in the case of main thoroughfares, and up to 1 in 10 in the case of side-streets. Where steeper inclines have to be dealt with stairs or footways should be provided. The latter should be employed more frequently than is at present the case on mountain slopes and for diagonal crossings of long blocks.

Health.

For hygienic reasons, streets running due east and west should, where possible, be avoided, because the houses on the south side during the greater part of the year do not receive direct sunshine. The width of a street should be at least equal to the height of the houses in it. Broad streets should be planted with rows of trees and garden plots. Forecourts in front of the houses favour the access of light and air, and often allow a reduction of the width of the roadway. Very wide and bare streets are to be avoided, owing to dust clouds and lack of shade. The same remark applies to long straight streets, especially when they lie parallel to the direction of prevailing winds.

Beauty.

On purely æsthetic grounds there is as much to be said for straight streets as for crooked ones, and for a regular as for an irregular building line. In hilly

districts curved streets facilitate traffic and the laying-out of sites. In level districts the adoption of straight or crooked, regular or irregular lines depends both on practical considerations and also on the artistic intentions of the designer. Straight streets of great length should be avoided; the remedy is to curve or change the direction, also transposition of the direction or building lines. Transpositions are, however, only permissible in so far as they do not interfere with a clear view of the traffic. Convex changes of gradient are to be avoided in straight streets as far as possible. Concave levelling is to be preferred. Unavoidable stopping-points ought to be treated artistically as terminal points. Every street ought as far as practicable to be planned individually. A change of width in different parts of the same street may serve to add to its beauty. Self-contained street pictures are everywhere to be aimed at.

II. Planning of Open Spaces.

Traffic.

Open spaces are required for dealing with streams of traffic at points where streets converge, at railway stations, bridges, city gates, &c. For practical reasons it is desirable that the various lines of traffic should not intersect one another at one point. Spaces devoted to traffic lack, as a rule, one quality of artistic importance—viz. the setting of a proper frame. They can, nevertheless, be made to present a pleasing appearance. The lack of a suitable frame may be to some extent compensated by so arranging the lines of the streets that the eye travels over the open space and rests on a boundary wall. Useless traffic areas resulting from the unnecessary meeting of streets are to be avoided.

Market-places should be near to some main thoroughfare, but their main area should not be open to vehicular traffic.

A considerable number of open spaces are desirable in the interests of fresh air. They should occupy at least one-tenth of the total area of a town. Spaces planted with trees and flowers, such as *gardens* and *recreation grounds*, are important to health, as are also public parks and promenades.

Beauty.

The chief artistic quality of open spaces lies in their being as far as possible enclosed in a proper setting. This applies to market-places and garden, but especially to spaces of a purely architectural character, *i.e.* spaces intended as sites for monumental buildings. The preferable position for these buildings is at the side of the open space rather than in the centre. In this latter position the necessity of a framing for the remaining portions of the space holds good. Porticoes and porches, which can be carried out into the street openings, help to close in the frame. Errors in scale, especially unduly large open areas, are to be avoided. Convexity of the open space is inadmissible. Concavity is preferable. Each open space should, as far as practicable, be laid out individually.

Combinations of spaces are subject to various requirements, according to the purpose for which each is intended, *e.g.* whether it be for purposes of traffic or as a site for monumental buildings. The *grouping* of several separate spaces can be made to produce fine effects from an artistic point of view.

III. Planning of Cities.

Historical Development.

It is instructive to pass in review—

The formal cities of ancient Greece.

The formal and informal cities of the Romans.

The irregular cities of the earlier Middle Ages.

The regularly laid out towns of the later Middle Ages, of the Renaissance, and of the Baroque period.

The systematically designed cities of America.

The improvements in towns carried out during the nineteenth century, for the most part geometrical in character; and, finally,

Modern ideals.

Traffic, Hygiene, Beauty.

Modern ideals are in the main based on the principles given above for the design of streets and spaces. We cannot simply imitate the cities of an earlier age, since the requirements of the traffic and of hygiene have altered. That the ground plan of a city should be clean and orderly is of importance. The task of the artist lies in a perfect adaptation to use, combined with beauty of form. In other words, the arrangement of the open-air space shall satisfy æsthetic demands, while at the same time it must provide, as completely as possible, for convenience of locomotion and health.

Economic and Social Requirements.

In addition to the claims of traffic, health, and beauty, economic and social considerations require attention. The streets and blocks of buildings must, in their character and dimensions, conform to the economic and architectural necessities of the inhabitants. Broad main thoroughfares must be provided for the bulk of the traffic, narrow side-streets of private houses serve to divide the area to be built on into separate blocks. The various parts of the city ought, even in the first rough plan, to be divided up in accordance with the purposes they are intended to serve—viz. into rows of houses or detached and semi-detached buildings; into tenements or private houses; dwellings for the upper, middle, or working classes; shops and retail or wholesale manufactories, &c. Attention should be paid to their relative position in regard to the centre of the town, the surrounding country, the railways, and the harbour.

As in the case of isolated thoroughfares and open spaces, so too in the case of whole quarters of the city individual character should be aimed at.

Care of Monuments.

Ancient monuments of all kinds, as well as fine existing streets and views, ought not only to be preserved, but should be taken advantage of in order to secure a characteristic development of the city on artistic lines.

(Illustrated by forty lantern slides.)

5. By Gaston Trélat (Paris).

[*From the French.*]

Summary.—Streets are never wide enough to allow the traffic in the roadway to develop without leading to obstructions. These latter occasion loss of time inconsistent with the rapidity which the means of locomotion tend to ensure; again, they lead to a confusion in the streets which is not in harmony with objective beauty. The leading fact of the day is a more and more accentuated rapidity of movement from place to place, thanks to which the former suburbs of capitals or towns are joined, or can immediately be joined, to the centres of the agglomerations. Hence the possibility of assimilating these new localities to the old districts where the urban employments are centralised. Thither, then, should be transferred the dwellings which up to the present have crowded the centre of the towns, where they tend to spread transmissible and preventable diseases.

The enlarged agglomerations would gain considerably in healthiness and brightness, in contrast with these faulty concentrations of dwellings, cramped and one above the other in comparatively restricted spaces.

Uninhabited areas could take the form of parks, squares, gardens, avenues planted with trees; and even private squares could be made on pieces of ground large enough, so that the buildings would line the public roads. And all this should be planned and settled before it is too late. This necessary preliminary work should be carried out under the ægis of the municipal authorities independently of the exigencies of execution, which should be effected according to financial possibilities and intentions. Nothing should be executed which is not in accordance with general harmony, of which it is expedient at once to have some idea, in order to ensure the realities, such as present knowledge bids us consider them.

This would therefore be a technical focussing of the progress that science faces in our days. From this would follow later the prescribed realisations in accordance with the views that our intellectual life may well admit of.

It is necessary to get away from the antiquated methods which up to now have served as the bases of the regulations of the highway authorities. In order to do this it would be expedient to appeal to competent meditations and deliberations, all having as their primordial object the health and well-being of the community. For it is in the exclusive interest of the community that such regulations ought to be made.

Conclusion.—Consequently there is reason to express the desire that for all important agglomerations plans should be studied without delay. They would have to take into account the conditions inspired by science and which interest health, such as rapidity of movement from place to place.

These plans would therefore require a focussing of the technical solutions to be drawn from science. They would be carried out according to local requirements and budgetary possibilities. But nothing would be done which was not in accordance with an *ideal* in keeping with the knowledge of the age.

6. *The Planning of the Residential Districts of Towns.*

By Raymond Unwin.

While towns in England are growing as rapidly as those of other countries we have not studied the question of town development, as many of the other countries have. In Germany, for example, there is a large literature and at least one good periodical devoted to the subject. German municipalities have extensive powers and are in the habit of making plans to regulate the development of their towns. The English haphazard system of allowing towns to grow has only to be compared with this to be condemned. It is necessary for our municipalities to secure additional powers; probably the best way would be to begin by forming committees in each town to watch over and criticise town development from the æsthetic point of view, and these committees should work for the appointment by each municipality of a professional expert whose special duty it should be to examine and criticise all development from the point of view of its effect on the appearance of the town.

It is important for us to study what is being done in other countries, but we must not necessarily accept the conclusions they have arrived at as indicating the best methods for our own development. This is eminently work for architects, who alone have received the necessary practical and artistic training.

It is the regulation of the vast growth of residential districts around our towns which is most required in this country. Valuable suggestions may be obtained quite as much from old English villages and towns as from the ancient Continental towns which the school of Camillo Sitte have taken so much as their model.

Both alike suggest the great importance of defining and limiting suburban areas. Old towns were often defined by their walls with beautiful effect. We need to replace with some more comely girdle the ragged edges and rubbish heaps which surround our modern suburbs; belts of park land, meadow, wood or orchard, often of quite narrow width, might be used with good effect.

In suburban areas the larger buildings will be few, but should be grouped so as to produce some enhanced effect and some definite centre for the life, as well as for the plan, of the suburb or district. The judicious use of planting may help to link together buildings in centres where there may not be enough fine buildings to make an adequately large enclosed place. The growing desire for greater space and more openness of outlook is an important and difficult element in our problem.

Before attempting to lay out a new area the site must be very carefully studied, a contour plan must be made, and a survey of trees and many other features of interest. Even well-grown hedgerows may sometimes be helpful; anything that will break the naked newness of a suburban area should be preserved. The plans should be thought out on the ground and committed to paper afterwards. It is impossible to study too thoroughly a site and its conditions; the proper directions for the main roads, the various centres, factory areas, &c., should all be settled on the site. A symmetry which will look nice on the drawings is of no value; but definiteness of figure in the main framework formed by the chief roads of a town or district is certainly valuable to enable people easily to find their way about. The whole of the plan should be based on definite reasons rather than abstract rules, and one cannot be too willing to consider suggestions from the site. Rules cannot be laid down in favour of straight or curved roads; each form has its beauty and use; the mere aimless meandering road will be quite as monotonous as the straight road. The contour of the ground or existing features having curved lines springing from natural causes may suggest very beautiful curved roads, but straight roads opening up a beautiful view, or affording fine avenue effects, may be equally satisfactory. Each road should be given some distinctive character, which may be enhanced by planting it with a special kind of tree. Greater variety than at present should be allowed in the width of the roads, in their construction and decoration, according to the purposes they will serve; by-laws need revising in this respect. Great care is needed in decorating roads with trees or gardening; everything must be kept very simple and broad in effect. The dignity of many fine streets and parks in Continental towns has been destroyed by the introduction of wriggling lines, of beds of variegated foliage, and such like.

The best direction for roads to take for residential purposes depends so entirely on the designing of the houses that no rule can be laid down. Roads running east and west may give a south aspect for all the houses provided only that the superstition that a house must have a tidy front to the road and an untidy back away from it can be exploded, and houses for the south side of the road be designed with their living-rooms facing from the road and their so-called backs made tidy and presentable to face the road. The advantage of roads running north and south, or thereabouts, is that both

sides of the houses get an equal amount of sunshine. An important improvement required in suburban districts is the better grouping and arrangement of the houses. Endless repetition of detached or semi-detached buildings becomes quite as monotonous as the endless rows of houses. Valuable suggestions may be obtained from our old village greens, cathedral closes, and college quadrangles. Even the throwing together of a few front gardens may help matters, but where smaller houses can be built in groups, and the groups be designed as a whole, and where such groups of houses can be arranged on two or three sides of an open garden or green, or even where they can be set back from the road at varying distances, not only may variety and beauty be given to the road, but greater openness of outlook may be provided for the houses, and very often some small distant view may be given.

Variety of effect in the streets is very desirable, but it must never be forgotten that mere variety is not in itself necessarily pleasant, in fact is seldom really satisfactory unless it is variety within some enclosing unity. For the town-planner it is most necessary that he should understand wherein consists what we call natural beauty; and while he should seek every opportunity that the site may afford of pleasant natural beauty and the interest and picturesqueness of happy accident he must never forget that he cannot design happy accident or natural beauty.

The reading and illustration of the Papers read occupied nearly the whole of the sitting, and with the exception of some brief remarks by M. Ch. Buls (Belgium), Mr. Albert Kelsey (Philadelphia, U.S.A.), and Mr. Max Clarke, there was no discussion. Mr. Frank Miles Day (Philadelphia, U.S.A.), before the meeting closed, showed a number of slides illustrating plans of various American cities, and briefly explained them.

No resolution was proposed.

Subject VIII.—TO WHAT EXTENT AND IN WHAT SENSE SHOULD THE ARCHITECT HAVE CONTROL OVER OTHER ARTISTS OR CRAFTSMEN IN THE COMPLETION OF A NATIONAL OR PUBLIC BUILDING?

Thursday, 19th July.—Institute Meeting-Room.

Chairmen: Mr. R. Böker (Russia); Mr. Leonard Stokes (England).
Hon. Secretaries: Mr. E. Kirby (Liverpool); Mr. G. Oakley Totten, jun. (United States).

1. By Sir William Richmond, K.C.B., R.A.

A simple question is asked upon a very complicated subject. Complicated because we live in times when artists come much more rarely into touch than formerly. Cities are bigger, life is less simple, distractions of various kinds are ever hindering any artistic intercourse. Above all the State does not take much account of Art. Education is in all hands, superficially. Hundreds of clever young fellows are taught the rudiments. How few of these gain permanent employment, or even make a living. Yet, notwithstanding, the Institute is always broadening its ground; the Royal Academy seeks to be more comprehensive. The Art Workers' Guild has accomplished much, and the "Arts and Crafts" have succeeded in gaining the interest of a section of the public. Against the cold attitude of the Government towards Art may be set a growingly democratic bearing of artists to artists. Architecture, sculpture, and painting are getting only too slowly more closely into touch, and the professor of each separate art is gaining knowledge from the specialist. And yet there are great difficulties. The great mother of Art, Architecture, is still shy of her children. For this there must be a reason. May it not be that though increased liberation from "Styles" finds a less pedantic outlook, still a really modern expression in architecture has not entirely overcome them? The rapidly increasing necessities of modern life, the almost innumerable and new problems which the architect has to solve, render him more or less an experimentalist. And exactly, though less forcibly, an analogous uncertainty surrounds the inspiration of the sculptor and the painter.

Modern costume does not lend itself to sculpturesque or pictorial art as monumental art, and only monumental design can find fellowship with architecture; so that we are more or less in a dilemma, all of us. It would seem a commonplace to say that a classic building should be embellished with classic stories told either in the round in relief or by painting of the same character, and the same applies to Gothic buildings. And yet being done the average even instructed citizen is left cold. He is aware of a certain anachronism; and though he may admire, his admiration is without sympathy, and if he does not state it there is lurking in his mind some such sentence as this: "Is there nothing good enough, picturesque enough, grand enough, in modern life to create a style?" This leads one to the conclusion that architecture must make the move; sculpture and painting will follow. The divorce of the three arts has been destructive to the highest art, which contains them all three. It is impossible to deny that the Royal Academy is *per se* an academy of painting; it has fallen to be so. The architectural room there enlists but little of the public attention. Why? The average public is neither interested in nor does it know anything about that noble art which is beyond its power of comprehension, because it appeals to the most abstract of our senses, beauty of line and of proportion. Architecture is an art which appeals last, not first, to the average individual. Painting appeals first, first as portraiture, secondly as anecdote; that painting which is the highest, which is abstract, and hence in allegiance with architecture, appeals scarcely at all. The same may be said of sculpture, though in a less degree than of painting. Regard for the abstract beauty of form is very rare in England; thus architecture, sculpture, and the higher forms of decorative painting have no market; they are not either of them, as it were, dealers' wares; their value is intrinsic, not fluctuating, and it cannot be grouped in the sale-room: therefore neither architecture, sculpture, nor decorative painting is within the market. So much the better! Doubtless a combination of serious architects, sculptors, and painters

would be quite invaluable, a society, say, comprising a small number of each section of the arts, perhaps six architects, six sculptors, and six painters.

The Institute is the very body to create this new departure from specialism and all its narrowing effects.

In my opinion no amount of "Papers," either for discussion at a Congress or for stimulating a pleasant chat at one of the evenings at the Institute, will ever lead further than that evening's passing instruction and pleasant pastime. There are many men capable of writing able articles, convincing also for the time being, but which very soon are found in that limbo called forgetfulness. We must get practically into touch; there must be no priority. Our several professions are full of difficulties, which would be appreciated as soon as we could get to work together. The architect can learn much from the painter and sculptor, and *vice versa*. It is "touch" that is needed, not "shyness," and real "touch" can only occur when practice follows precept in the initial stages of a great work. It is of little use for an architect to tell the sculptor or the painter, Here I want a statue, there a relief, here a wall painting, &c. At the very initial the three should work together. There is nothing harder than the experience of an artist who is called to decorate a building with painting or sculpture which is in a sense complete without either. Surely the structure must be designed to receive. A niche is nothing without its statue, a sentry-box is a silly thing without its sentry, just as a framed panel seems to ask for what it is framing, for something precious—marble, mosaic, or colour. Incomplete is the monument to the Duke of Wellington in St. Paul's; it looks like a pedestal without a reason; it fails because it has no culmination. There are plenty of arches, plinths, pedestals scattered all over London which present the same absence in appearance of any utility. If there is no money forthcoming to complete a scheme why ask us to imagine what all these pedestals, plinths, and arches mean? They mean nothing, they are inadequate and senseless! Surely we can imagine a style of architecture the growth of necessity which shall ask for no adornment save that of beauty of line and dignity of proportion. That would be one thing, perfectly complete and quite comprehensive and entirely satisfactory as far as it went. But when we see forms which are not structural placed for purposes which they do not fulfil are we not puzzled and dissatisfied? We are presented with shams. Now, if the architect, starting his design, says, I am going to design for sculpture and painting, and calls in the best sculptor and painter to consult with him, his hands will be strengthened: knowing how much money he has to spend, he will be able to portion out the various costs of the various parts of his scheme.

My main contention is that, with a view to closer touch between the architect, sculptor, and painter, a committee, such as I have indicated, might be appointed by the Institute. That committee might in time become an advisory body to the Government and the London County Council, which both need assistance, not only in common sense, but good taste also, in all that applies to Art.

2. By H. P. Nénot, Membre de l'Institut de France

[*From the French.*]

The study submitted to you touches one of the most delicate points of our art; it has for its subject "The Professional Relations between the Architect and the Painters and Sculptors his Collaborators."

In all the bygone periods of art the same idea has united all artists. Painters, architects, and sculptors had the same ideal, and the master of the work was sure to find in his collaborators a decorative interpretation in perfect harmony of feeling with his own composition.

Among the Egyptians the hieratic sculptures form part of the architecture itself, and the finest paintings in the tombs of the Theban kings indicate that from the pictorial decorative point of view as well as from the sculptorial the unity was perfect.

The beautiful monuments of Greece, where sculpture played an important part, sometimes even a predominant part, as in the Erechtheion, show us that the greatest sculptors tried, above all, to accomplish this desirable union.

At Pompeii, where we find once more the intimate life of the Romans, we see that in their private habitations, as well as in their monumental buildings, the decorative paintings and sculptures, although varied *ad infinitum*, are always in complete harmony with the architecture.

In the Middle Ages the charming Latin basilicas, the splendid Byzantine churches, the beautiful Roman and Gothic cathedrals, in spite of the very great liberty of movement of the sculptors and painters, show clearly that a common idea, a uniform faith, animated all the artists.

During the Renaissance, architects, painters, and sculptors completely changed their æsthetics, and the record of the unity with regard to the three arts belongs to Michael Angelo, who, as an architect, was his own collaborator as painter and sculptor.

In the Louis XIII., Louis XIV., Louis XV., Louis XVI., and the Empire styles the architects prefer the curves or the very straight lines, and both painters and sculptors in their works adapt themselves to their conceptions, and are either graceful and simple or rigid and severe, according to the different periods.

This unity of the different schools was fruitful for the artists; each of them, according to his temperament, interpreted the sentiment of art which exercised its influence on the period, and either followed or led its fluctuations.

They ignored the styles and passed, like our great colleague Blondel, from the Louis XIV. to the Louis XV. without being aware of it, simply by following the fashion. Painters, sculptors, and architects were all of the same school, and this school appeared to them far superior to all those of the previous periods; they had even a certain contempt for the said periods, and it must have been a great joy and a great force to be sure of the perfect truth of the æsthetic part of their art.

How easy and simple were the professional relations between the architect and his collaborators, the painters and sculptors; they always spoke the same language, and this common thought gave to their movements that beautiful union which is so difficult to obtain in our days.

The earthly paradise of the happy unitarian periods is closed to us. We all wanted to eat the fruit of the tree of Science. Critics and archæologists have taught us the history of art and of the different styles, and each of us, according to his predilections, has placed in them his apogee or his decadence.

Without having an idea that art is a language which every generation must alter only a little, and that it is impossible to account for these modifications and to judge them before at least half a century has gone by, we have been asked what style we were creating! We should have answered like those heroes of a popular drama who, drawing their swords, exclaimed, "We gentlemen of the Middle Ages!" These at least did not hesitate to classify their period.

We have, besides, been told very politely that we were living in complete decline, and then instead of continuing to speak the language we had learned we were required to return to the origin. But there are so many delightful

streams and so many charming little rivulets in the stream of Art, when we try to advance up its current, that some have found the true source in India, others in Greece, certain others in Italy, and many in the Latin and in Gothic countries and elsewhere. Each artist, having found the true source, took a delicious bath in it; his followers sustained that there was not any clearer water elsewhere; but, as there were many true sources, each group speaking a dead language with which he was little conversant, the artists ceased to understand each other, as of old during the building of the Tower of Babel.

In this confusion some beautiful individualities asserted themselves, but all these schools rendered the task of the architect very difficult when it was the question of decorating a monument.

At the time when the Sorbonne was building, a great fresco of 26 metres had been decided upon for the great amphitheatre, to decorate the part at the bottom which supports the cupola.

The success depended on the tone of this fresco. Puvis de Chavannes seemed to be the right man. With him the white stone wall, almost entirely covered over, would continue to bear its cupola. But my friend Benjamin Constant, appointed for another decoration in the same monument, wished to be appointed to carry out this fresco, and the President of the Republic, M. Grévy, informed the Director of the Fine Arts, M. Kempfen, that he wished very much that he should be given the work.

The position of the architect was painful. To resist the head of the State was a difficult matter, but, on the other hand, with the powerful pallet of Benjamin Constant the semi-cupola would no longer be supported, and the general harmony would be destroyed.

I declared that if I was forced to accept Benjamin Constant I should give up the fresco and substitute an architectural motive for it. Then I was allowed to have Puvis de Chavannes.

This should always be the case; instead of the architect having a certain artist forced on him he should be given a great freedom in the choice of his collaborators, and he himself must point out the artists and follow their work, without any other preoccupation than the general harmony of his work; and he should leave to the painters and sculptors, who are responsible for their work, every liberty of form or of colours, provided they do not prejudice that general harmony without which no architectural work can really exist.

3. By L. B. Müller, Architect (Ellers-Düsseldorf)

[From the German.]

The author takes it for granted that in giving the order to the architect in question the decision is based upon his evident capacity. (Success in a competition or constructions specially remarkable for their qualities previously designed by him or carried out after his plans.)

Architects thus discovered will and must possess so much common sense that they will be able to give the necessary instructions to all co-operating artists.

If it is the question that a public or national building, or also some other monument, devised by one architect, shall be adorned with statues or pictures, *the architect shall be the designer of the whole work*. It is he who shapes the frame of the picture and gives the subject for it. The other artists are the co-operators. They have to subordinate themselves to his intentions in the dimensions, in the tone and harmony of colours, in order to obtain a desired effect; if they will not, *they must not assume the task*.

If it is the question of a monument, in which either the sculptor or the painter (interior monument) gives the tone or expression, *the architect must subordinate* himself to the intentions of the relative artist, and must continue making sketches, until he has produced the impression desired by the artist; and if he cannot find it, *he must withdraw* from the task.

If in the erection of public or national buildings a co-operative artist is forced upon the architect, or if, *vice versâ*, in the execution of monuments an architect is imposed upon another artist, it is more than likely that their idea will be diametrically opposed.

The stronger mind will prevail, and the work will be a failure.

The watchword in every case must be: The designer of the work shall have the choice and supervision of his co-operators.

But the designer ought not to be possessed of a false sentiment of honour. He ought not to reject an improvement on his design simply because it was not *he* who hit on the idea.

He should leave to his co-operators, so long as they work with ability on the plan of his design, not only a certain liberty, but also a rightful share in the honour, "mention of his name, and recognition of any eventual improvement."

"*By so doing he honours himself.*" Now, if in what precedes it has been asked and reasons given for the subordination of the co-operating artist, then much more shall the mere artisan subordinate himself to the designer.

But, of course, the architect must in these spheres be sufficiently an adept, so as to be able to give the proper decision in the various questions which may turn up to be decided upon.

He shall encourage the artisan to express his opinion about things he believes will contribute to the improvement of the work.

He shall without fear or favour refuse to accept any work done badly or slovenly, and already in the conditions of tender he shall leave no doubt about this.

The architect must direct his fullest attention that everything necessary be carried out in the most beautiful (or most perfect) form.

In this Nature must be his model, in which everything necessary is given in the most beautiful form.

4. By Gaston Trélat (Paris).

[From the French.]

Summary.—In short, I do not hesitate to declare that the architect ought to have control—with no other limit than his aptitudes and possibilities—over all the other artists and all the artisans.

This control could not be too effective, both as to the construction and the arrangement. It is thanks to this control that the departments will be able to respond to the mind that the originator has placed at the service of the programme, together with the social need which it enters into his speciality to supply.

Finally, with regard to the character which the plastic motive is to assume, the architect, as composer, is alone capable of ripening the idea which he has conceived and rendered practicable. It is only necessary to be suited with the multitude of forms which he has realised exactly by his sketches. The latter contain a complete order of ideas which the pencil permits us to understand and to hint at, and from it results a *maïstria* — the word is not too strong—which belongs to the composer architect, and which attaches him more and more to the elaboration of the work he has conceived.

Conclusion.—Consequently it is to the architect that appertains the control of all the artists as well as all the artisans having to collaborate in the erection of monuments destined for the State or the public service.

And this until the absolute completion of the *ensemble* in question.

5. By Otto Wagner, Imp. and Roy. Superintendent of Works; Professor of the Imp. and Roy. Academy of the Plastic Arts. (On behalf of the Society of Austrian Architects.)

[*From the German.*]

In how far and in what sense is the architect to be given absolute authority over other artists or artisans in the completion of a public or international building? As regards this question, the considerations already gone into in this Society's communications on the previous subjects are to be completed by the following:

The quality and quantity of the architect's knowledge, and certainly in the majority of cases his practical capacity, certainly surpass, as has been shown, the same qualities of his co-operators; they therefore actually force the leading part in the execution of any work upon the architect. This leading rôle, if it is to be crowned with success, must be provided with absolute power over all the contributing hands, because a correct artistic and technical harmony of the various parts depends on it, and only the creator of the work—that is to say, the architect—is in a position to make the necessary dispositions.

To this has still to be added that many works and modes of use of the material are invented by the architect himself, and that he must for this reason be the master to decide about every measure in carrying out tests, trials, in making samples, &c. No doubt that about matters which deviate from the broad way of the ordinary methods he will deliberate with the contractors and purveyors, and come to an understanding with them; but the final decision in the matter can only rest with him, because he alone remains responsible to the public for the success or failure of the enterprise.

If the architect has a certain security for the success of his work in the proper selection made by him of the persons to whom the carrying-out of the various parts of the work is to be entrusted, the importance of such a choice shows itself in a much higher degree when it is the question of a co-operating artist, because in this case a new factor, viz. the individuality of the collaborator, is of the most vital importance. Every artistic conception of the co-operators must adapt itself completely to the intentions which the architect wants to realise, so that the work to be created appears as of one cast. Considering that the creator of the work alone can form a correct judgment about this, no doubt he alone is entitled to make the choice of his collaborators. The answer to Question VIII. can therefore only be:

The architect, in the construction of a building, is to be given absolute power over the co-operating craftsmen, but in a special manner over the co-operating artists.

6. By José Amargós, Salvador Oller y Padrol, P. de Miquelerena, Salvador Valeri. (On behalf of the Association of Architects of Catalonia.)

[*From the French.*]

Having been appointed delegates by the Committee of Propaganda of the Association of Architects of Catalonia to the Congress which will be held in the great city of London to set forth the conclusions bearing on Question VIII.: Should the architect be invested with the supreme authority over all the artists and artisans until the complete termination of State monuments or those destined for public service? and having accomplished our task, we have the honour to submit to your superior judgment the result of our mission.

During the discussion of the subject we have been assailed by the fear of not having, perhaps, correctly understood its scope and transcendency, since it is evident, and it is a matter of practice in Spain, that the authority of the architect must be supreme over all the artists and over the workmen until the complete termination of the monuments destined for the State or for the public service.

The supreme authority of the architect is necessary. The undisputed authority he must have over the workmen belonging to the building trades, properly so called, might to some people appear to be doubtful when extended to persons who are exercising one of the fine arts, and who also take part in the execution of monuments of a public character. The pretended emancipation from this authority on the part of certain artists compels us still more to defend our rights, which have not been granted to us as a matter of grace, but which are fully recognised by a law without appeal of the professional capacity and distinction, which rights must prevail as much in order to render more easy, more free, and more correct our facultative mission as to accomplish the greatest possible development of architectonic activity.

It is not meant, of course, that this justified authority shall be exercised in an arbitrary manner, since in that case all the workmen and artists would be converted into mechanical executors of the work. The authority must be exercised with the greatest discretion by giving clear, precise, and methodical instructions to the artists and workmen, taking care that these have understood the nature and importance of the work entrusted to them, so that all, by using their best endeavours, shall contribute by their intelligence and good will to the perfect execution of the work.

Powerful reasons of a moral as well as a material order can be alleged in favour of the principle of the absolute authority of the architect, but the limitations prescribed by the Congress prevent us from entering fully into the arguments necessary to completely justify our judgment, which is to make the most formal affirmation:

The architect must have the authority indicated in the question for the following reasons:—

First: Because the architect surveyor must transfer his thought by the proper means, either graphic, written, or verbal, as the case may be, to all the artists and workmen taking part in the execution of the monument, by explaining to them the reasons which determine him to take such and such a resolution; otherwise the monument would be devoid of that harmonious variety in the uniformity which every architectonic work must possess.

In the second place: Because for every edifice is necessary and indispensable an architect to direct the work in order that the building shall be carried out in the proper order and without interruptions; otherwise it would be prejudicial to the monument and to the artists and workmen who contribute to its execution.

In the third place: Because without this authority the architect could not present the necessary estimates of cost, and the technical management of the works would be difficult. In fact there would be created certain obstacles, dualisms, and suspicions, which, besides causing prejudice to the professional moral standard, would be damaging to the realisation of the work itself, because the various parts would not be in harmony with

a uniform judgment and study, and because the architect would not be in a position to insist upon the fulfilment of all the contracts of the different trades or arts which necessarily enter into the production of every public or State monument.

In the fourth place: Because it would be subversive of the dignity of the architect, who might be suspected to be lacking in the knowledge he is obliged to possess by his title and by the practical experience he has acquired in his profession, if the interference of another artistic authority were tolerated which would deprive him of the means to act, and would put him into antagonism with the conditions which must be united in an architect, and which are the outcome of the fusion of science and art.

In the fifth place: Because without this absolute authority the architect would remain by this very fact exempt from the responsibility which he enters upon towards the State or the Administration, because of being deprived of the means which such authority gives over those who are placed under him, as the artists and artisans must be—not that this subordination is to be considered as humiliating: rather, on the contrary, it is honourable for the man who is able to fill his place in the various walks of life.

In the sixth place: Because the profession of an architect is certainly the most complex of all the artistic careers, and the one which requires the greatest amount of knowledge, which fact by itself alone gives him a superiority over all the other artists and workmen who take part in the works.

One case only can present itself in which the supreme authority of the architect may be doubted upon some points—viz. in the erection of monuments which at first sight appear to be almost totally sculptural, in which exceptional case the architect gives to the sculptor the necessary freedom of action, so that the latter in the development of his idea shall not be hampered by the architectural part.

This in synthesis is our view, and we think that we are not mistaken in saying that the architect fervently wishes that his professional dignity may be protected and raised by furnishing him with that absolute authority in his relations with the other artists and artisans in harmony with the innovations of a state of civilisation which becomes every day more complex and more perfect, and that it shall be recognised by the public authorities in their works, in order that the architect shall never in any way be deprived of it, because he is prevented from it by his mission, in order to preserve his prestige in the face of the whole community and render himself worthy of it.

7. By Dr. P. J. H. Cuypers, Architect (Amsterdam).

[*Extract.*]

L'architecte doit être le maître qui commande à tout ceux qui doivent concourir par leur collaboration à effectuer le bâtiment; c'est lui qui dirige le tout jusqu'à l'achèvement complet de l'édifice.

C'est ainsi qu'on a travaillé dans l'antiquité ainsi qu'au moyen-âge, c'est ainsi qu'il faut agir maintenant et à l'avenir, si l'on veut que le monument nous offrira l'harmonie dans les détails et l'unité nécessaire dans l'ensemble à toute œuvre architectonique.

De même que pour une grande composition musicale il est nécessaire que tous les exécutants se rangent et obéissent aux ordres du maître (directeur), tout aussi il est nécessaire que les différents collaborateurs d'un monument architectonique soient dirigés par l'architecte, sans quoi il est à craindre que le monument se ressentira de l'anarchie qui a sévi pendant la construction.

Nous ne savons que trop bien par l'expérience que le peintre, abandonné à sa propre volonté, considère probablement son travail pour le monument artistique le plus important du monument, et pour cela il tâchera de fixer l'attention sur son travail par tous les moyens qu'il aura à sa disposition, indifférent pour lui de nuire à l'unité et à l'harmonie de l'ensemble du monument. Le sculpteur fera la même chose si l'on lui laisse la faculté d'agir à son gré.

La tâche et la vocation de l'architecte sont exprimées par son nom: *ἀρχι* de *ἄρχειν*, commander, et *τέκτων*, artisans. "L'architecte est l'artiste qui compose les édifices, en détermine les proportions, les distributions, les décorations, les fait exécuter sous ses ordres et en règle les dépenses." (Viollet-le-Duc.)

L'homme de métier était qualifié de "maître de l'œuvre," désignation bien autrement positive du reste que celle d'architecte, car par "œuvre" on entendait tout ce qui constituait l'immeuble et le meuble d'un bâtiment depuis les fondations jusqu'aux tapisseries, aux flambeaux, aux menus objets mobiliers.

Si nous passons en revue les monuments qui sont érigés pendant les siècles dans lesquels les architectes ont abandonné leur autorité et qu'ils ont laissé aux différents artistes et artisans toute liberté d'exécution, la grandeur, l'unité et l'harmonie ont disparu par le manque d'équilibre et d'une organisation logique.

8. By Modeste De Noyette, Directeur de la Section de la Flandre-Orientale (Société Centrale d'Architecture de Belgique).

[*Extract.*]

L'architecte doit avoir le contrôle sur les autres artistes et sur les artisans jusqu'à l'achèvement complet des monuments ou édifices *dont les plans et détails d'exécution* lui ont été confiés.

L'architecte est *le maître de l'œuvre*. A l'idée d'élever un monument succède celle du choix de l'architecte, soit par voie de concours publics, ou qu'on tient compte de la valeur de la confiance pour le choix d'un artiste déterminé.

L'architecte est donc investi d'une mission: il assume la responsabilité de l'œuvre qu'il va élever; il va de soit qu'il doit avoir l'autorité nécessaire. L'architecte est le créateur de l'œuvre: c'est son enfant; c'est lui-même, et qui donc pourrait mieux interpréter ses idées, ses conceptions, que lui-même? C'est donc bien lui qui a donné aux autres arts la place et l'importance qu'ils doivent occuper dans son œuvre.

Des conditions doivent être stipulées d'avance quant à l'autorité à la direction artistique notamment. L'architecte doit rester le maître de son œuvre, et ses collaborateurs doivent s'entendre et tenir compte de ses projets.

Si un différent surgit, si des modifications doivent se faire ou des économies être réalisées, *qu'il soit stipulé* que c'est à une commission des monuments, à des autorités artistiques, qu'on soumettra les propositions, et non à l'arbitraire de fonctionnaires incompétents.

Quant à l'avenir, c'est à l'éducation artistique qu'on devra s'en prendre. Il faut que l'architecte étudie davantage la peinture et la sculpture, et qu'il étudie avec plus de persistance les arts appliqués à l'industrie. Il faut qu'il puisse connaître les couleurs et qu'il sache manier le pinceau. Il faut qu'il sache modeler et plier le fer. Mais ce que nous demandons aussi c'est que l'on apprenne aux autres artistes les éléments de l'architecture,

qu'ils puissent comprendre un plan et respecter les proportions, qu'ils connaissent les matériaux et leur résistance.

A quoi nos éducateurs de l'avenir doivent viser aussi, c'est un rapprochement des artistes et artisans spécialistes. Il faut que les architectes créent des cercles où les peintres et les sculpteurs viennent les rejoindre et les connaître. Il faut que les sculpteurs et les peintres nous prouvent par leur conduite, par l'organisation de leurs expositions, par leurs écrits et par leurs rapports de tous les jours que l'architecture est la mère des arts, et qu'avec la peinture et la sculpture elle constitue une triplice où elle occupe la première place.

Il faut que l'architecture ait sa place légitime dans nos musées publics. Il faut que l'on rappelle par des expositions tous les chefs-d'œuvre que l'antiquité, que le moyen-âge, nous a laissés. Les peintres et les sculpteurs y puiseront des leçons pratiques ; ils connaîtront ce qu'a été la grandeur et la réussite de ces monuments, l'harmonie, l'entente entre les artistes, leur quasi-confusion.

Il faut s'aimer, se respecter et travailler la main dans la main, et au lieu de se démolir, au lieu de vouloir dominer chacun dans sa branche, travailler à la réunion de l'œuvre et au progrès artistique. C'est dans cette voie que je vous convie à entrer. Préparons par notre déjà longue expérience le chemin aux jeunes ; c'est les laisser un bien beau patrimoine d'éducation artistique. Et s'il fallait pour le moment encore protection pour l'artiste, que les architectes, autant que les peintres et les sculpteurs, tendent tous leurs efforts pour obtenir des lois qui nous mettent à l'abri des exploiteurs modernes.

Resolution of the Congress.

Speakers in the discussion were MM. Ellicott (Baltimore), Rozet (Paris), Bonnier (Paris), and Poupinel (Paris).

The resolution proposed by Herr Wagner (Vienna) was seconded by Mr. Howard Ince and adopted as follows :—

That the architect in the construction of a building should be given absolute power over the co-operating craftsmen, but in a special manner over the co-operating artists.

Subject IX.—THE RESPONSIBILITIES OF A GOVERNMENT IN THE CONSERVATION OF NATIONAL MONUMENTS.

Thursday, 18th July.—Institute Meeting-Room.

Chairmen : M. E. V. Dahlerup (Denmark) ; Mr. Alexander Graham, F.S.A. (England).
Hon. Secretaries : Mr. C. A. Cowper (Melbourne) ; M. Franz de Verstel (Belgium).

1. *Government Action on the Continent in the Interests of National Monuments.*

By Prof. Baldwin Brown, M.A.

The question of the proper treatment of ancient monuments has engaged the attention in previous years of the International Congress of Architects, and at the last meeting, held at Madrid in 1904, various resolutions were passed on the subject, one of which was to the effect that "a society for the preservation of historical and artistic monuments should be established in every country," and that all such societies "might be grouped for common effort and collaborate in the compilation of a general inventory of national and local treasures." It is the aim of the paper to give a succinct account of the measures actually in force on the Continent for the furtherance of the cause of monument protection, with a view more particularly to advance the cause in Great Britain and Ireland.

The buildings and works of art that have come down to us as a legacy from the past represent national assets which can never be increased, and the problem how best to deal with them is the same in all European countries, though it has been approached, grappled with, or evaded in different fashions. A knowledge of the principles and practice that obtain abroad must necessarily be of value to those interested in this question in our own country.

A comparison of British arrangements for the safeguarding of ancient monuments with those that exist in Continental countries gives the following results. Almost everywhere abroad the initiative has in this department been taken by Governments, while in Britain private individuals and societies have practically done all the work. The British Ancient Monuments Protection Act of 1882, though actually passed as a Government measure, had been due to private initiative. More recently, however, there have been encouraging signs that British Governments are coming to recognise this protection as a suitable matter for State care, and the Ancient Monuments Protection Amendment Act of 1900 represents a distinct advance.

Continental Governments have expressed their solicitude on this matter in various fashions, the most common and one of the most effective of which has been the establishment of State Commissions charged with the upkeep of national treasures of architecture and art. Some of these Commissions have been at work for the best part of a century, while others, as in Holland, have only recently been appointed. They exist in at least a score of European countries. Apart from the maintenance of State Commissions, Continental Governments have shown their care for monuments by issuing numerous rescripts, royal and ministerial, some of which date back to the seventeenth century. The Prussian and other German Governments have been especially active in this department, and about fifty Prussian rescripts of the kind were promulgated between 1815 and 1881.

In most cases these rescripts, and the regulations issued by the State Commissions, have not possessed the binding force of law. They have worked well, and been generally obeyed by intelligent and docile citizens, but have not possessed the power of actually controlling the recalcitrant. The formal Monument Act, with its penal sanctions, is something different and more cogent. Such Monument Acts exist in more than a dozen European States, and Great Britain is one of these. British legislation differs, however, from that of other countries in that it confers no compulsory powers over monuments in private or corporate ownership. In the case of all other Monument Acts the proper authorities are given

the power to expropriate, on grounds of public utility, any ancient monument of great value that is in danger under its existing ownership. The British Act has no compulsory clause of the kind, and only contemplates a friendly contract between private owners and the public authorities. The contract is voluntary, though while it is in operation the law enforces its provisions.

The work of Continental Monument Commissions, whether or not this is carried on under a formal Monument Act, is generally based on a list or schedule of national monuments which are worth preservation either on artistic or on historical grounds. This implies a process of inventorisation. Such a survey of the national assets in this department is in progress in almost all European countries, and here again Great Britain is conspicuously behind her sister nations. In our own country there is a precedent for State action of the kind in the Department of Historical Manuscripts, on the cataloguing of which a Royal Commission has been at work since 1869. Nothing of the kind has yet been attempted for works of art and historic buildings. There is, however, a growing demand for some State action of this kind in the British Islands; and it is suggested that the International Congress should strengthen the hands of those who are working in this direction by a memorial in favour of a Government scheme for the survey and inventorisation of the vast treasures in ancient monuments and works of art which this country possesses, and for which there is practically no legal protection. It is generally acknowledged that the British Government owes something in this department to the country, and the appointment of a Royal Commission for the purposes just indicated would be the most practical measure that could be adopted.

2. By A. Besnard (Architect, Paris).

[From the French.]

For a long time past the question of the preservation of national monuments has occupied the minds of enlightened persons. In fact, the Congresses of Architecture, of the public arts, or of archæology, which have succeeded one another for some years past have been called upon to discuss this important problem without, however, up to the present any palpable result having been obtained.

On the other hand the efforts made on various sides by the Governments show their benevolent solicitude, but they prove at the same time the necessity of having recourse to a uniform programme the elements of which it is necessary to find out.

It is with this object in view that we have made a list of the different measures which in our opinion should contribute in the most useful manner to obtain this result, and we submit it to the judgment of the Congress.

First of all, it is absolutely important that the Governments should have the power to bring about the obligatory expropriation in every case where a monument which presents an historic, artistic, or archæological interest shall not be kept in proper repair by its owner.

That never, unless it be absolutely and immediately needed, should administrations be allowed to carry out, or to authorise private persons to carry out, works which may cause the disappearance or the ruin of a monument the historic or monumental interest of which is recognised by all.

That everywhere where the site shall form the natural frame of the monument it shall be prohibited to touch it in any way whatever.

That in the formation of streets and sewers the administrations shall be bound to respect the ancient monuments which happen to stand in the line of the laying-out plan, and that in certain cases these monuments shall be made the basis of such laying-out plans.

That in case it should be found absolutely impossible to preserve a monument, it shall be the duty of the administrations, before any demolition work be started, to take photographs, and make faithful abstracts and casts to be deposited in the local museums, and that the fragments of architecture, sculpture, and locksmith's work coming from the demolition of such monuments be distributed among the local or regional museums.

That particular instructions shall be issued as to the mode of proceeding in these demolitions.

That encouragement shall be given to such municipalities to suppress any parasitic structures which hide from view the monuments of the past.

That wherever it is possible the monuments shall be preserved for their original purpose, and that for the others measures of hygiene and salubrity shall be taken which will allow them to be utilised. A considerable number of old houses which are interesting from a monumental point of view could thus be preserved to posterity.

That at no time shall the municipalities be authorised to entrust with such work agents of the local public service, but always architects appointed by the Government.

That in the case of enlarging a town the public authorities shall be obliged to preserve its primitive aspect in the main outlines, and thus make it possible to perpetuate its original character.

That advertising shall be strictly prohibited on and around the monuments.

That archæological inventories made on a uniform plan shall be compiled everywhere, so as to secure the perfect and complete knowledge of all the national art treasures.

That in cases where the credits will not allow the immediate execution of the work of restoration of the monuments, measures of protection shall be imposed (particularly with regard to sculptures); and as a first consequence that in all buildings devoted to religious services the tumular flagstones shall everywhere be taken up and placed against the internal walls of the buildings.

That in the case of restoration, instructions, based on a standard programme, shall be the rule for the architects appointed to carry them out. Among these rules we would mention especially the obligation of preserving to each monument, for all the parts to be restored, records of the previous state. To use (in all cases where this will be possible) the original materials and to respect the dispositions of the ground plan, these dispositions being elements of the characteristic features of the different styles.

That previous to any restoration a very accurate report on a large scale of the actual condition shall be taken, with casts of the sculptures and the most characteristic profiles.

That general rules shall be established for the placing, the maintenance, and the restoration of painted glass windows.

As the mission of the Governments is not only to think of the present, but also and above all to make preparations for the future, they must try to surround with a sentiment of art their programmes for the general instruction of the masses, so that there may be created in the latter a respect for monuments of which at present they are too often devoid. To take one instance, we should see that good reproductions of the masterpieces of monumental art have their place among the list of scholastic pictures, and that in the large towns museums of casts

be established on the lines of our admirable museum in the Trocadero.

The Governments should encourage with the greatest care the public and private schools of apprenticeship in order to preserve the taste and the skill of the workman and the artisan, without which the work of the architect could never become perfect.

The Governments should also encourage the private societies which have for their purpose the preservation and the defence of monuments, especially by granting them privileges which will enable them to usefully carry out their mission.

They should also encourage the publication and the diffusion of private monographs, such as the one in France entitled *The Church of Our Lady, Cathedral of Amiens*, by G. Durand, published under the auspices of the Society of Antiquaries in Picardy; also those treating of the local influences, such as *The Religious Architecture in the Ancient Diocese of Soissons in the Eleventh and Twelfth Centuries*, by Lefèvre Pontalis; and finally those of collective documents such as the *Collection of the Archives of the Commission for Historical Monuments*, published under the patronage of the Administration of Fine Arts, by MM. de Baudot and Perrault-Dabot, which contains no fewer than twelve thousand documents, and the interest of which, being admitted by everybody, forms a collection of the very greatest importance.

3. By W. R. Lethaby.

The systematic study of ancient art has led to the perfecting of a second method of research, the history of civilisation by its monuments—and at the same time a conscious love of old works of art has been awakened. These, the poetic and historical aspects of old buildings, are dependent upon their authenticity. Such monuments are not mere records; they are survivals, while they preserve the handiwork of the men of old. On the historic side nothing else is a valid document, and on the side of feeling nothing else can touch our imagination.

While the science of archæology was being built up experts were betrayed by their knowledge and enthusiasm. They did not think of the difference between the mere form of an old monument and the living building itself. Even when they did not make all new they refused to see how they wounded the old by placing their conjectures by the side of it. Restorers acknowledge that harm was done in the past, and then with professions of sympathy they go and do likewise, taking the new word "repair" in place of the old word "restoration," but with similar result.

Renewal is going forward at quickened rate all over Europe, and the most ancient and beautiful buildings are those which are passed through the mill of restoration and left desolate. St. Front, Périgueux, excited so much interest that it was made over again. The Dom at Aachen is being covered up with fashionable marbles and mosaics; Murano Cathedral looks as if it had been supplied from a factory; and so with many others.

In every country protests have been made—in France lately by Emile Hovelaque, in Germany by Strzygowski, in Italy by Boni, in England by Ruskin and Morris—but the custodians of ancient buildings and their architects make a few verbal concessions and go smiling on their way.

The alternative to this method of dealing with old buildings is persistent care and repair, as of national treasure to be guarded. As fragmentary works in a museum seem all the more precious for showing a history of antiquity and loss, so it is with an old building; and if it be cared for in this spirit of proud guardianship no necessary strengthening and upholding will harm it.

It is usual to object that old buildings are not in museums, and have to be maintained for use; but no proper use is hurtful. The use and stability of our cathedrals have been sacrificed to the caprices of ornamental decoration. If the principle is accepted that our object is the preservation of the integrity and authenticity of a monument, we can hardly go wrong in carrying out needful repairs. Much experience is stored up in the papers issued by the Society for the Protection of Ancient Buildings.

If architects must restore, let them do it on paper only, without impairing the evidence of the building itself, evidence which disappears when they actually build their theories, so that we have not even the satisfaction of being able to prove them wrong.

We can hardly go to any famous building in Europe without finding extensive works in progress; and unless there is soon some great change of policy there will be little left that is truly old to hand on to posterity.

4. By Joseph Artigas y Ramoneda (Barcelona).

[*From the French.*]

Conclusion.—From my determining the "nature of national monuments" deciding "to whom they belong," and fixing the "advantages of their conservation," it follows logically that the only way of preserving them is incumbent on peoples and Governments, on the latter resting principally the sole responsibility for their loss, for the reason that they alone have the active authority to avoid it, and the charge of the necessary public moneys to preserve them from the natural decay which the parts must suffer both through the action of time and from the destructive hand of man.

5. By the Tuscan College of Engineers and Architects.

[*From the Italian.*]

The late engineer and architect, Professor Giuseppe Poggi, of Florence, Honorary President of the Tuscan College of Engineers and Architects, and *Correspondant* of the Royal Institute of British Architects, in some memoranda and articles which are now being collected by his family into a single volume, together with other documents concerning art, on several occasions expressed his views with regard to the responsibility of the Government for the preservation of national monuments. This College now submits to the Seventh International Congress of Architects in London the extract from the volume bearing on this subject, which has been presented by the family, together with an epitome of the opinions expressed by a person of such universally recognised authority.

As early as 1845 Professor Poggi had written a Paper "Concerning the Respect which we owe to the Antique Monuments," and in 1864, in a memorandum read at the Royal Academy of the Friends of Geography, "On the Project of Expropriation with a view to the Preservation of the Monuments," he summed up his impressions about the law presented in the Italian Parliament, concluding with these words: "The spirit of that Government is provident which determines by the means of expropriation to secure the preservation of the monuments of art and of national history which are of an immovable character, and the preservation of which would be in danger if they continued to remain in the possession of private individuals or of corporations.

"In our opinion, such a wide and generic law cannot be productive of the beneficent effects which it is intended to achieve, by reason of its own excessive vastness, because neither the State nor the communes could support the immense expense which the wide application of the law would entail.

"In order to obtain the desired results it would, in our opinion, be convenient that the law should be assisted by preventive measures and by arrangements which would render its application less frequent.

"Among these arrangements we should consider the following to be of great efficiency:

"1. The compiling of an illustrative list which would indicate those monuments of national interest, compiling it with such discretion as not to register without good reasons any except those immovable monuments which are really worth preservation.

"2. To make appeal to the citizens and corporations, owners of such immovable objects of art, with a view to revive in them the ancient sentiment of the beautiful and to encourage them to make the necessary sacrifices; further, to animate the whole nation and the municipalities with a sense of gratitude and esteem towards those who fulfil such a noble and patriotic duty.

"3. In such cases where this appeal should remain of no effect, it would be necessary, with regard to immovable monuments of practical usefulness, to order the restoration within a given period, and in case of failure to have it done by the commune at the expense of the owner. Should this appear to be too harsh, the property should be expropriated and sold by public auction with the prescriptions adapted to the case. For those private properties used for religious purposes, the patronage should be ceded to families who would undertake to keep them in proper repair. In the case of those properties used for religious purposes and belonging to corporations, orders should be given for their restoration or their keeping in repair, and should they be too poor to do it, expropriation should not be declared unless there was the certainty of a better preservation. Finally, for those which are neither among the number of the properties put to a private use nor among those used for religious purposes, it might, in the case of bad preservation, be convenient to declare for them only the permanent expropriation, this course, for the reasons indicated, not being a burden either to the State or to the communes.

"4. In conclusion, to form a fund, not so much for the purchase of immovable monuments which may come under the law of expropriation for permanent preservation, as for the purpose of covering the losses on the price of those which must be sold at once by public auction, and to furnish the funds for the necessary repairs."

In another memorandum, read at the second Congress of Engineers and Architects in Florence in the year 1875, bearing the title, "On the Preservation of the Monuments of Art and Archæology," at the time when it was proposed that the Government should lose no time in passing a law for such preservation, Professor Poggi set forth the following conclusions:

(*a*) That it would be necessary to render it obligatory, in cases of important restorations of national monuments, to obtain the previous decision of the consulting provincial commissions.

(*b*) That the monuments belonging to private individuals should be submitted to the same law of preservation, adopting the course which shall be deemed most convenient. In any case it should be ruled that the private monuments should form part of the general inventory of the monuments of the nation.

(*c*) Before the consulting provincial commissions enter upon their duties, the foundation and the principal evidence for the preservation and restoration of the architectural monuments in question, and for the formation of the inventories of those which must be declared to be of national interest, should first be discussed and established by architects and other artists, as well as by archæologists and other competent persons. These inventories should be accompanied by the plans, sections, and perspective views considered necessary to give a clear idea of the present state of the monument, and of the necessity of its restoration and preservation.

(*d*) Appeal should be made to the Government itself, with a view to steps being taken to constitute a fund or a revenue which will furnish the means for carrying out and observing the law in a convenient manner, either by the Treasury making return of such part which it might have unlawfully appropriated and which was to be used for the preservation of works and monuments of art, or by issuing such measures as will be considered most to the point. And there being among these measures that of the entrance fee for visiting the museums, art galleries, antique monuments, &c., it is to be hoped that the receipts therefrom will be entirely destined for the above purpose.

On later occasions Professor Poggi recommended that the means at disposal should be put into operation at once for the restoration and the preservation of the large number of architectonic monuments which suffer, and the importance of which becomes known on the occasions when new excavations are opened, and when searches are made for remains of Etruscan, Greek, and Roman monuments.

"Italy," he wrote, "is already recognised by the whole world as a great country on account of her numerous and varied monuments which have been uncovered. It is not urgent to excavate the buried remains, because in the state of preservation they are in now they will be found unaltered in a couple of centuries; but we cannot say the same of those which are visible objects of admiration and of study, and of which it behoves us to arrest the decay without delay, unless we are to see them pass away from us for ever."

6. By Gaston Trélat (Paris).

From the French.

Summary.—If the State is a chief synthesis of collective interests the Government is the effective agent of the measures which these interests demand.

Now, monuments are important elements of national beauty. As such they form part of the preoccupations which in our days *public art* would tend to claim and bring within its compass.

This new institution has already taken a place in parliamentary deliberations with regard to the preservation of sites; and finally Governments have no longer the right to be indifferent to it. National monuments are important elements of public beauty. They have therefore a conspicuous place, with this inherent and distinctive feature, that they were included in the former classification of the Fine Arts.

If Governments should be indifferent to their preservation and maintenance, it would be going against the great fact which becomes more and more evident, and which takes a character of social progression, to at least honour our time.

Conclusion.—Monuments are a source of public beauty, and their preservation ought to be submitted to the deliberations of competent persons representing the

collectivities interested. Consequently it involves in the highest degree the responsibility of Governments.

To facilitate the double operation, as well as to effectively instruct the public as to the results expected, there is reason to desire that, whenever it is shown to be useful, the custom of making temporary models before any definitive execution should be extended.

Resolutions of the Congress.

The following members took part in the discussion: MM. Besnard (France), W. D. Caröe, M.A., F.S.A., Alexander Graham, F.S.A., Professor Baldwin Brown, M.A., and Commendatore d'Andrade (Italy).

On the motion of M. Besnard, seconded by Commendatore d'Andrade, the Meeting resolved:

That in all countries the Governments shall be authorised to obtain if necessary the compulsory expropriation in every case where a monument possessing historical, artistic, or archæological interest is not kept in a due state of preservation by its owner.

Further, on the motion of Mr. Alexander Graham, F.S.A., seconded by Mr. W. D. Caröe, M.A., F.S.A., the Meeting resolved:

That this International Congress of Architects recommends that the British Government be approached with a view to appointing a Royal Commission to control and extend the operations of the Ancient Monuments Protection Amendment Act of 1900 *and to prepare an accurate catalogue of all ancient monuments, whether historic or prehistoric, taking similar action to that of the Department of Historical Manuscripts and in agreement with the measures adopted in other countries.*

Subject X.—THE CONDUCT OF INTERNATIONAL ARCHITECTURAL COMPETITIONS

Wednesday, 18th July.—Institute Meeting-Room.

Chairmen: Dr. Ing. Hermann Muthesius (Germany); Mr. H. T. Hare (England).
Hon. Secretaries: Mr. E. Guy Dawber (England); Senhor Ventura Terra (Portugal).

1. By J. Guadet, Inspecteur-Général des Bâtiments Civils, Professeur à l'École Nationale des Beaux-Arts, Membre du Conseil Supérieur de l'Instruction Publique.

[*From the French.*]

1. The Advantage of International Competitions.

These competitions are legitimate in certain circumstances. It would be dangerous to have recourse to them without advantageous motive.

Examination of this question:—

2. The possible Scope of the Competition.

The result of every competition is only a preparatory scheme, the preliminary design with estimate of expense. It cannot produce a definitive design; this must be elaborated afterwards.

The cost of the competition should be kept distinct from the cost of the execution of the building.

In international competitions especially it is dangerous to promise the execution of the work to the author of the first premiated design.

3. Conditions of the Competition, Regulations, and Programme.

These conditions contain two elements: regulations and programme. For both the advice of experienced architects is indispensable.

The regulations must allow the same time to all competitors.

Programmes must be given out simultaneously in every country.

The programme should be issued everywhere in the language in which it is drawn up and not in translation.

Every further communication should be addressed to all the competitors.

During the competition no change should be made in the regulations governing it.

The same date for sending in designs should be obligatory everywhere, and designs should be sent in to a place specified for each country.

The premiated designs should become the property of the promoters, but without prejudice to the laws of artistic copyright.

An exhibition of designs before and after adjudication is necessary.

The regulations must indicate whether the designs should be signed or distinguished by a motto; signature is best, but the adoption of a pseudonym should be allowed.

No envelope containing an author's name should be opened without his consent, except in the case of premiated designs.

The technical programme should be clear, precise, and drawn up under the advice of experienced architects. It should avoid directions which cannot be followed, and should not impose excessive work by means of drawings that are useless or to too large a scale.

The competitors' personal expenses should be reduced to a minimum.

4. Assessing the Competition.

The jury should only consider justice.

The conditions constitute the contract; a matter of law between the parties.

Every design, no matter how attractive, which violates the conditions should be disqualified.

The jury, necessarily competent, should be composed of architects.

The promoters who are interested should be present in a consultative capacity.

The jury should classify the designs and allocate the premiums.

The jury should be formed of architects of each nation represented in the competition in the proportion of one assessor to ten competitors or fraction of ten afterwards.

Every nation represented by less than ten competitors, with a minimum of five, should have the right to one assessor.

The architect assessors should be elected by the competitors of each nation, each name receiving an absolute majority of votes.

Study of the Working Arrangements.

To obviate non-acceptance the competitors should elect simultaneously an equal number of supplementary assessors.

The jury should elect their president, secretaries, and reporters.

The jury should be master of their procedure, but they should not be able to modify the distribution of the premiums, nor the total amount.

Vote by proxy should be forbidden.

The judgment of the jury should be final and without appeal.

APPENDIX.

Competitions in Two Stages.

Special conditions for these competitions.

The first and second competitions are different things, and should not be confused one with the other.

For the first stage a large sketch plan is sufficient.

The chosen competitors should be indemnified for the cost of the first competition. They should not be classed, and the premiums should be reserved as an extra matter for the final competition.

It is preferable that the first competition should not be exhibited, all the sketches being preserved so as to be exhibited with the final competition.

The regulations ought to specify that the competition be in two stages. This decision should not be taken afterwards.

The regulations should fix all the dates.

They should prescribe the minimum number of accepted competitors who, after the first competition, should receive the stipulated honorarium. They should make known the premiums granted in the final competition.

The jury in the first competition should also judge the second, latitude being given to the accepted competitors to add additional assessors.

The regulations should be final for the two competitions, but the programme should be given for the first alone, subject to modifications for the final competition.

2. *Rules proposed by the Society "Architectura et Amicitia" (Amsterdam).*

The Society "Architectura et Amicitia" (Amsterdam) proposes to the Committee of the Seventh International Congress of Architects the following rules to serve as a basis for "the organisation of public international competitions for architecture." These propositions having been made by a special commission of the members of our society, they have been decided upon as definitely approved at the meeting of April 18, 1906.

ART. 1.—The International Congress of Architects frames some regulations in accordance with which permanent competition commissions are constituted, representing the architects of a country or also of various nationalities combined, which will act as representatives of the profession of architects in the preparatory measures at the international competitions. The commission of the country in which the competition is to take place will assume the management of the business. The presidents of all these commissions constitute together a Central Council, to which is entrusted the control of the international regulations and the eventual propositions made to the International Congress concerning alterations to be made in these regulations.

ART. 2.—The international competitions shall by preference take place in two sections. Preliminary competitions shall be opened in the various countries, or groups of countries, through the medium of the permanent commissions of the competitions. The admission to the final competition will be limited to those who earn distinction in the preliminary competitions. An honorarium shall be distributed to all the competitors in the final competition, the number of whom is limited for each country or group of nationalities by the International Congress.

ART. 3.—The conditions of the competition must be the same for all competitors. Exceptional conditions, no matter under what form, are prohibited. The delivery of the designs must be made anonymously.

ART. 4.—The date of the sending off, proved by the stamp of the stations of departure, which must be delivered to the jury, shall be taken as the final term for the closure of the competition. The programme of the competition shall be published or placed at the disposal of the applicants in all the countries, or groups of countries, at the same date.

ART. 5.—The jury of an international competition will in principle be formed by half the number, less one, of the members of the nationality of the country in which the competition is opened. Architects must form the majority of the members of the jury. The names of the members of the jury and of their substitutes, with the declaration which contains the approval of all the conditions, shall be inserted in the programme.

ART. 6.—The jury of the country in which the competition is held forms the information bureau. The publication of announcements relative to the competition will be made in such a manner that it may be considered to have come to the knowledge of all interested parties. These announcements shall have the same value as the conditions of the programme.

ART. 7.—The programme must express in precise terms the conditions made, making a distinction between the absolute requirements and the optional requirements. It would, however, be preferable that optional conditions should not figure in the programme of the competition.

ART. 8.—The number of drawings to be sent is to be limited to the quantity absolutely necessary in order to avoid all useless work and superfluous expense. For the provisional competitions, sketches, eventually accompanied by approximate estimate of costs, will be asked for. Any drawings sent in which have not been asked for in the programme will not be submitted to the judgment of the jury. The programme prescribes a uniform manner of treating drawings to enter into competition. Every delivery must be accompanied by a declaration that the project is the artistic copyright of the competitor.

ART. 9.—Should the sum available for the execution of the design be absolutely fixed, the programme must indicate the necessary particulars for the uniform working out of the estimate of costs either in detail or approximately. The expenses for the foundations will not be included in these estimates. The programme will have to contain very precise indications with regard to the character of the soil, the site, the foundations, and the surroundings.

ART. 10.—The total amount of the prizes to be distributed shall be at least equal to double the amount which would be paid for the architectural part of the work carried out to an architect who had been entrusted with the execution of the design. It must be admitted as a principle that the execution of the design shall be entrusted to the successful architect, under the conditions which are in force in the country of such competition.

The amount of the prize shall not be deducted from the amount of the honoraria to be paid. Should the promoters of the competition desire to reserve to themselves the option to dispense with the services of the architect declared to be the author of the best design, the programme must set out the terms of indemnity. Should the work not be carried out, the same indemnification should be paid to him. In all cases the designs sent in shall remain the artistic copyright of the competitors.

ART. 11.—All the designs shall be publicly exhibited for a sufficiently long period in order that the competitors may be able to visit this exhibition, which shall be announced beforehand in the architectural publications. The complete and detailed report of the jury shall be published in the architectural periodicals before the opening of the exhibition, so that all the parties interested may have knowledge of it. The report of the conclusions of the jury of the preparatory competitions shall be communicated sufficiently to the successful competitors previous to the definite competition.

3. By GASTON TRÉLAT (Paris).

From the French.

Summary.—The argumentation of the previous subject bore, in the first place, on the spirit which in general dominates architects. Contrary to the intentions of a generous application of art, the architect often seems too preoccupied about not doing certain things. And one spends a good deal of time in learning those things which must be avoided. Wasted years! it seems: how much more preferable would be an education which faced the realisations to be deduced from contemporary science? This would adjust itself to the standard authorised by experience.

Competitions, as they are now held, have not the scope they ought to have. Conventions take up too much place, one has a sense of things learnt: book-keeping of a new kind and without influence on the mind of the masses.

Public beauty, like public health, corresponds with the contemporary movement of democracy, of which these two capitals are a momentary crowning. The architect has no right to separate himself from it if he wishes to fulfil the function expected from the social competence it is his duty to show.

Internationalism and publicity will give to competitions a youthfulness and a vitality which they have not had up to now, and which are a part of the movement of contemporary effort.

These competitions should have exclusively in view the services of which they are the object. It must be so, in order to ensure to the operation a normal rectitude which would keep it above the paltrinesses which are too well known and are lowering to art, causes lowering alike for competitors and judges, and injurious to the solutions to be gathered.

The competitions being international, the nations taking part in them through their artists will all include the same number of judges.

In this way the competition agents, whom the judges represent, will doubtless be less inclined to look upon themselves as a delegation having to represent the interests of compatriots, or the idea in fashion currently admitted in their country. The jury will be more particularly engaged in selecting and bringing about a solution, while the competitors themselves, in consequence of the absence of preconceived ideas represented with a show of authority, will strive to elaborate and present different sides, to the exclusion of all party spirit. And, in these days, if one wishes to respect personalities alike useful in art and in science, it is impossible to be sufficiently on one's guard against these fatal influences. In effect, whatever may be the interest of contemporary evolution, with its abundance of curious observations and generous comparisons in their knowledge, ill-luck will have it that, in revenge, we must endure the narrow ideas of little groups and clans, which bring confusion into the service of the human collectivity. It is, however, to this that all our efforts should directly refer, free from this impediment, very regrettable socially.

To bring this *résumé* to an end, with regard to competitions I must again say that the spirit of argumentation followed in these lines endeavours to ensure the supremacy of the decision, uniting the choice of the work and the choice of the artist charged with its execution. The author of the first idea ought to complete the studies and accomplish its realisation. And the same spirit which the decision has intended to make clear will be found in the accomplished work. This is how things should go, if one would keep to the rectitude that the situation demands and respect the responsibility that the decision imposes on the jury.

And the organisation, as sketched here in its characteristic features, would perhaps be destined to give results still unforeseen. But this would be on condition of always keeping in the path that would normally be deduced therefrom, once agreement was come to on the ideas which support the solution I submit to the Congress.

Conclusion.—Without consciousness there is neither art nor artist. It is only by a wide comprehension of things, all leading to the consciousness of his time and of humanity, that the artist can do a useful work. In these days the widening of science serves as a basis to this consciousness. And the applications of the art take a special character in order to supply the needs and aspirations of the period.

The organisation of international competitions showing a greater amplitude of intellectual horizon would be in accordance with the ideal of the day.

Again, these competitions would have the advantage of extending the character of educations which up to now have remained restricted to present requirements.

But measures would have to be taken to ensure the entire liberty of intellectual expansion amongst the artists entering into competition, to afford the jury an unlimited independence and to enlighten the conscientiousness of the verdict they would give.

4. By P. A. WEELDENBURG (Rotterdam).

[*From the French.*]

The Society Bouwkunst et Vriendschap of Rotterdam, while recognising the great initiatory value of the propositions made by the Society "Architectura et Amicitia" of Amsterdam for the regulation of International Competitions, considers—

That the suggestions made by the above-named Society should be more widely extended. This opinion is based on the experience acquired at the last International Competition for the Peace Palace at the Hague.

This last competition has clearly proved that it is necessary to paraphrase the principal duties of the jury of competitions in general, and of International Competitions in particular. The Society Bouwkunst et Vriendschap of Rotterdam is of opinion that it is preferable that the new conditions (*redaction*) be drawn up by a Special Commission, and that a motion (conclusion) be presented to the next, the Eighth, International Congress of Architects. In order to give a wider scope to the propositions

made by the Society "Architectura et Amicitia" of Amsterdam, the Society Bouwkunst et Vriendschap has the honour to submit to the Seventh Congress the following motion:—"That in view of the fact that the proposition of the Amsterdam Society 'Architectura et Amicitia,' presented to the Seventh International Congress, deserves to obtain greater scope, the Permanent Committee of the Congress shall appoint a preliminary (*préparatoire*) commission, on which the Amsterdam Society 'Architectura et Amicitia' shall be represented. This Commission to consist of seven members."

Resolutions of the Congress.

The following members took part in the discussion: Signor M. E. Cannizzaro (Italy), MM. Georges Harmand (France), G. Oakley Totten, jun. (United States), G. A. T. Middleton, Augustin Rey (France), Henry T. Hare.

M. Weeldenburg's motion, as above, having been seconded by Signor Cannizzaro, an amendment was moved by M. Harmand, seconded by Mr. Oakley Totten, and adopted by the Meeting as follows:—

That the Congress, taking into consideration the reports submitted, recommends them to the examination of the Permanent Committee of the Congress in order that they may submit a special report to the next Congress.

It was further decided to submit the following recommendations to the Permanent Committee:—

1. *That the Permanent Committee nominate a special commission of seven members to study the question of international public competitions and report to the next Congress.*
2. *The competition programme should declare that the members of the jury by the fact of their acceptation of the office have not and will not have directly or indirectly any material interest in the execution of works put up to competition.*

EXTRA PAPERS.

1.—NOTE ON THE CHÂTEAU OF SAINT-GERMAIN.

By Honoré Daumet, Membre de l'Institut de France.

Tuesday, 17*th July.—Institute Meeting-Room.*

Chairmen: Mr. Reginald Blomfield, A.R.A. (England); Signor E. Cannizzaro (Italy).
Hon. Secretaries: Monsieur C. V. Bartaumieux (France); Mr. Harbottle Reed (England).

The origin of the Château de Saint-Germain-en-Laye, one of the most important that France possesses, is not known for a certainty. The kings of the first two lines probably indulged in the pleasure of hunting in the vast forests which covered the hills at the foot of which flows the Seine, but there is no certainty that they had any buildings there. King Robert I., in the beginning of the eleventh century, founded a church on the highland which dominates the village of Pecq. It is only in the twelfth century that there are positive proofs that there existed a royal residence on the spot where stands the present castle. Louis VI., who reigned from 1108 to 1137, is the first sovereign from whom an authentic document makes known to us his presence at Saint-Germain. His successors made frequent sojourns there: Louis VII., for instance, who resided there in 1143, and held a conference with Henry II., King of England; Philippe Augustus, who made his will there and built the first chapel of the castle. St. Louis received there in 1247 the Latin Emperor of Constantinople, Baldwin II., who made him a present of relics of the Passion. In order to enshrine them the pious monarch gave orders to build the Sainte Chapelle of the Palace in Paris.

The Castle of Saint-Germain was therefore already during the thirteenth century an important royal residence: it was then composed, besides a dungeon, of two blocks of buildings for habitation, placed one in continuation of the other, the foundations of which still exist, and which have been recognised as such by excavations. The chapel of Philippe Augustus being found insufficient, it was replaced in the reign of St. Louis, between 1230 and 1240, by a more sumptuous building, which has remained almost intact until the present time. This is a piece of architecture of remarkable beauty, the merit of which may perhaps be attributed to Pierre de Montereau, who during the same period built part of the abbey church at St. Denis, certain details of the two monuments being identical.

Inhabited successively by Philippe the Bold, Philippe le Bel, and Philippe of Valois, surrounded by a park, the first mention of which is to be found in 1331, the castle was burnt during the English invasion in 1346, but it was not completely destroyed. The chapel fortunately escaped the fire, and steps were soon taken to rebuild from its ruins and to enlarge a residence where the various successive sovereigns were so fond of staying. Charles V. seems to have been particularly fond of the place, and we know that he had important work carried out there: it is to him that we owe the present circumvallation wall which encloses in its perimeter the big dungeon built by Louis VI. and the chapel by St. Louis. This wall, which is fortified in the manner of the period, had the form of an irregular pentagon; it was afterwards used as a sort of sub-basement for the building erected under the reign of Francis I. Inhabited still by Charles VI., the castle was during several years occupied by an English garrison. Subsequently it remained uninhabited during the end of the fifteenth and the beginning of the sixteenth century.

Francis I. gave orders to rebuild it and to follow the surrounding wall of Charles V. The new buildings must have risen quickly, the simplest materials being used for them. The work of the Middle Ages disappeared almost completely, with the exception of the chapel, which was left standing, but which was partly hidden

on the side of the apsis by new constructions, whilst the rose window was obscured and crushed by the wall of the Salle des Fêtes, a magnificent hall illustrated in Du Cerceau's precious work, *The Most Excellent Buildings in France*, the original drawings of which are now the property of the British Museum. Du Cerceau does not give the name of the architect who worked under the orders of Francis I., but it is safe to affirm that he was an innovator, because there exists no other type of architecture similar to the work he produced. To convince oneself of this it is sufficient to look at the very original aspect of the exterior, the beauty of the staircases and of the vaults which have been preserved, the majesty and the vastness of proportions of the salle des fêtes, called the Salle de Mars, where the great royal assemblies were held, as well as the festivals rendered so brilliant by the luxury and the elegance which distinguished the Court of the Valois. Henry II., like his father, was fond of Saint-Germain. Philibert Delorme changed the arrangements of the chapel, and Guillaume Marchant began to build the *Château Neuf*, whence an admirable view was afforded over the Seine valley. Of the *Château Neuf* nothing but a pavilion has been preserved, called the Henry II. Pavilion, which contains on the ground floor a curious hall of rustic architecture. In order to put the two buildings into easy communication, a door was made in the southern part of the *Vieux Château* building which was surmounted by a very fine piece of sculpture, now placed in the Louvre Museum, and which has been faithfully reproduced above the present entrance. The last Valois did not often stay at Saint-Germain so far as can be ascertained. Louis XIV. took refuge there during the Fronde, and there passed nearly all his youth. By his orders Jules Hardouin Mansart added to the castle five large pavilions which completely altered its exterior aspect. The beautiful and original order invented by the master of works of the Renaissance period doubtless impressed the architect of the seventeenth century who imitated him—a very remarkable fact for that time. Balconies in wrought iron supported by rich consoles were run all round, and the patrols' beats of the Middle Ages were converted into terraces. The castle with its wings built in this manner covered double the former area, and the Court of a luxurious king with its numerous retinue was able to be in residence there. Assemblies were held in the Château, and it is there that were celebrated especially the feasts on the occasion of the christening of the Grand Dauphin, the exact representation of which is preserved to us in engravings of the period.

Being deserted for Versailles, Saint-Germain, since 1689, gave refuge to an unfortunate king. The family of the Stuarts received there the hospitality of Louis XIV. James II. died there in 1701, and his wife Marie d'Este in 1718.

From that time onward the *Vieux Château* only plays an historic part. Its magnificent Salle des Fêtes was sometimes used for theatrical performances. In 1803 it was proposed to establish a hospital with 800 beds there; later on a cavalry school was established in the building; then it became a military barrack and a military penitentiary. It was only in 1862 that the architect Eugene Millet started the work of restoration which is still going on. The museum of *National Antiquities*, which has been installed in the Castle of Saint-Germain, is a guarantee for the preservation of a monument precious on account of the memories it recalls and for the material traces that French art of the best periods has left there in spite of the alterations and mutilations.

On the motion of Mr. R. Phenè Spiers, F.S.A., seconded by Signor Cannizzaro, and supported by Mr. E. W. Hudson and Colonel Lenox Prendergast, a vote of thanks was passed to M. Daumet by acclamation.

2.—METHOD FOR THE RECONSTRUCTION OF ARCHITECTURAL MONUMENTS BY METROPHOTOGRAPHY.

By M. Marcel le Tourneau, Architect with Government Diploma and Travelling Exhibitioner under the Board of Education and Fine Arts; Special Commissioner.

I. Historical Retrospect.

Metrophotography has been studied and created by Colonel Laussedat, a well-known French scientist, Membre de l'Institut, formerly Director of the National School of Arts and Crafts.

The method is now applied in every country in the world.

When photography was first discovered French savants foresaw the possibility of using it in the survey of monuments.

Arago, in particular, in the year 1839, foretold this use in communications to the Chamber of Deputies and to the Academy.

Jomard and Caristie made geometrical drawings from views taken with the aid of the *camera lucida*, and published them in their great work on the Egyptian Expedition.

At length, in 1850, after improvements had been made in photographic apparatus, a photographic view of the church of Santa Maria delle Grazie at Milan was transformed from a perspective into a geometric drawing.

Since these achievements French architects and M. Lebon have often made use of the geometric properties of photographs for their personal requirements.

But work of this kind has never yet been carried out systematically and with special apparatus—at any rate in France.

In 1903, having been entrusted with a Government mission, I put myself in communication with Colonel Laussedat, and speedily became convinced of the advantages of metrophotography.

After remodelling my apparatus I made several journeys in 1903, 1904, and 1905 in Greece, Turkey, and Macedonia. I brought back from these journeys over 200 photographs measuring 13 × 18 cm. and dealing with some twenty buildings. I made geometrical plans of two churches, one of which was exhibited at the Salon in 1904, the other, a very important one, at the Salon of the present year.

II. Advantages of Metrophotography.

The following are some of the advantages of metrophotography: One obtains documents which are absolutely correct and incontestable, without any fear of errors of calculation, uninfluenced by the personal equation of the artist. The data can be checked at pleasure, since the negatives are always available.

One can accurately reconstruct even inaccessible monuments, either in whole or in part, by the use of different lenses.

The operations necessary on the spot are reduced to a minimum. It is sufficient to expose one's plates methodically, going all round the building. The remain-

ing operations can be performed wherever and whenever the artist pleases, and they may be carried out by an operator and a draughtsman with a knowledge of perspective.

III. Explanation of the Method.

The method is based on the geometric properties of photographs of buildings taken in a suitable manner with instruments of precision.

These photographs present the monument which it is desired to "reconstruct" in perspective on a vertical picture plane. In order to carry out the "reconstruction" it is necessary to find the horizon line, the principal vanishing point, and the distance from the picture plane, and to note the actual dimensions of one of the objects represented.

It is easy to determine these elements by the use of well-made photographic apparatus; and a foot-rule will give the actual size of one of the objects in the picture.

Once these elements have been determined the true dimensions of the monument are easily arrived at by an inversion of laws of perspective.

IV. Apparatus Used.

It is necessary to employ apparatus of precision which will give a flat image, absolutely vertical and free from distortion, and to mark on this image the horizon line and the distance from the picture plane.

My apparatus includes all these features. It consists of a wooden camera made to focus, size 13 × 18 cm., with a horizontal turn-table, mounted on a tripod with three adjusting screws.

It is provided with two levels in the shape of a cross, and each dark slide is marked with four points indicating the extremities of two lines at right angles to each other.

The displacements of the lens and dark slide can be measured by graduated scales and verniers.

The position of the nodal point is known in the case of each lens.

A special swing-back, which can be used when required, allows the camera to be inclined, and enables one to obtain conic perspectives which may serve as a basis for geometric "reconstructions."

This swing-back consists in the main of a frame shaped thus ⌈ ⌉, screwed on to the stand. This frame carries on pivots two branches in the form of a cross forming a vertical plane. These receive the photographic camera.

The swing-back is arranged in such a manner that the axis of rotation is horizontal and parallel to the horizontal straight line formed by the intersection of the base-board and lens-front.

The angle of inclination can be read off by means of a movable pointer on a fixed circular scale.

V. The Use of the Apparatus.

System and method are all-important in the practice of metrophotography. Otherwise it will be impossible to extract from each negative the factors necessary for its utilisation.

Each negative, therefore, must be registered with the following details:—

(1) The number of the negative.
(2) The number of the slide.
(3) The focal length of the lenses used.
(4) The extension of the camera.
(5) and (6) The displacements of the lens.
(7) The angle of inclination.
(8) The horizontal angle of view in relation to the previous negative taken from the same point.
(9) The stop used.
(10) The length of the exposure.
(11) The subject photographed, with various remarks.

The negative should be as good as possible both from the optical and the geometrical point of view.

For this reason the camera should be perfectly rigid and exactly horizontal.

The negatives should be full of detail, but not too full of contrast. In other words, they should be taken with a small stop and slightly over-exposed, so as to overcome the contrasts present in the monument photographed.

It is specially important that all details of interest should be secured, and that the negatives should form a perfect series, so that there may be no gaps in the survey of the monument.

VI. Objections to the Method.

The photographic plate being an uneven surface, the negative obtained will show distortion.

The inequalities of the plate are—in relation to the focal distance (especially where long-focus lenses are used)—of such a character that the distortions of the image are infinitesimal.

Besides, absolutely smooth sensitive plates can be obtained by coating the glass with the sensitive emulsion.

The negative and the print vary in area from moment to moment.

This variation would, indeed, prevent a deduction of the true and fixed dimensions of the buildings if the element measured did not vary in the same proportion as the whole of the negative and the paper.

But this is not the case. The variations are proportional.

Consequently each print gives a perspective of variable area, it is true, but this allows one to "reconstruct" the true dimensions of the monument.

3. *Messbildverfahren* (*Photometry*).

A Paper on this subject, presented by Professor Meydenbauer, of Berlin, will appear in the *Compte-Rendu*.

4. THE TOMB OF AGAMEMNON.

By Cecil Smith.

Friday Evening, 20th July.—Grafton Galleries.

Chairmen: Messrs. R. Phenè Spiers (England) and Alexander Wielemans (Austria).
Hon. Secretaries: Alcide Chaussé (Canada) and Hippolyte J. Blanc (Scotland).

Mr. Cecil Smith's Paper contained an account, illustrated with lantern slides, of the "Treasury of Atreus" or "Tomb of Agamemnon" at Mycenæ, the columns from the doorway of which have recently been restored and set up in the British Museum.

This building is the most famous of the so-called "Treasuries" or "beehive tombs" characteristic of the Mycenæan age in Greece, of which examples have been discovered, not only at Mycenæ itself, but at Menidi and Spata in Attica, and at Orchomenos in

Bœotia. They consist of a subterraneam chamber of dome or beehive form, approached by a broad passage-way open to the sky, intended both as a tomb and also as a shrine at which posterity would pay semi-divine honours to the dead. For this reason special attention was paid to the decoration of the doorway: that of the Treasury of Atreus was enriched with elaborate mouldings, with an engaged semi-column on either side, sculptured with patterns in relief, and above with a richly sculptured façade, of which only small fragments now remain.

In 1811–12 the second Marquis of Sligo visited the Morea, at a time when Veli Pasha was making excavations in the district of Argos and Mycenæ; at the Treasury of Atreus he seems to have found portions of the shafts of two columns only, which were presented to Lord Sligo and transported to Westport, county Mayo. Each shaft was originally constructed in two halves; three such half-columns were acquired by Lord Sligo; the fourth was formerly built into a Turkish mosque at Nauplia, and is now set up in the National Museum at Athens. The Westport blocks were recently identified mainly through inquiries set on foot by the Earl of Altamont, and were last year presented by the present Marquis of Sligo to the British Museum.

The original bases remain *in situ*, and are represented in the Museum by facsimiles in breccia. As the two columns are not identical in dimensions, it has been possible from this fact and a study of the existing cramp-holes to assign every fragment to its place. The Museum originals have been combined with casts of the portions existing at Athens, Berlin, and Karlsruhe, so that with very little restoration it has been possible to reconstruct the entire shafts. Of the capitals, similarly, fragments exist at Athens and elsewhere, enabling a restoration to be made which is approximately accurate; and here, again, the slight difference in dimension, together with the fact that the horizontal band of pattern decorating the echinus runs in different directions in the two capitals, afforded positive evidence for the attribution of all the fragments.

A striking peculiarity of these columns is the downward taper of the shaft, which is two inches less in diameter at the base than at the summit. This feature is found commonly in the Minoan period in Crete, and possibly is due to certain structural necessities of columns constructed in wood, which are here translated direct into stone. In the present case the downward taper of the columns serves to correct the outward slope of the sides of the doorway which they decorate. The decoration of the shaft is probably of Egyptian origin, and may be compared with that on part of a column found at Tell el Amarna. The decoration of the echinus may be paralleled in the series of Doric capitals at Pæstum.

The decoration of the façade above the doorway is a problem of great difficulty, as no single fragment remains in position, and only fragments have come down to us which are conjecturally assigned to this part of the building. There seems to be justification for assuming a revetment of sculptured slabs, and possibly the triangular niche was filled with a sculptured group of two lions, as over the gateway of the town of Mycenæ, but the disposition of the ornament is matter of conjecture.

Mr. Cecil Smith concluded by showing on the screen a series of the different restorations proposed, concluding with the most recent one, drawn by Mr. Phenè Spiers, in which the newly reconstructed columns have been incorporated.

In the discussion which ensued, the following took part: Sir Henry Howorth, Professor Baldwin Brown, Mr. J. D. Crace, Mr. R. Phenè Spiers. On the motion of Mr. H. H. Statham, seconded by Mr. F. T. Baggallay, a vote of thanks was passed by acclamation to Mr. Cecil Smith, and briefly responded to.

At the conclusion of the meeting on Wednesday evening, 18th July, in the Institute Meeting-room, M. J. J. Caluwaers made a communication respecting the purchase and restoration of the house in which Rubens lived at Antwerp, and which was largely designed by Rubens. M. Caluwaers stated that an influential committee, including M. Henri Blomme (architect and member of the Commission Royale des Monuments), had been formed with the object of purchasing and securing the house, with which he desired the Congress to express its sympathy.